Ham-Res cotte

Stereometry:

OR,

The Art of SOLIDS demonſtrated Arithmitically, and by the Line of Numbers: With its Practice and Uſe explain'd, ſhewing the great Gain Timber-men get in buying by Gird-meaſure and Taper-trees, being a Caution to all Gentlemen, who have Timber and Woods to ſell.

ALSO SHEWING

The true Square of all round Timber, with Tables whereby you may find the Solid Content of all round Timber by inſpection.

AND

Directions to all Gentlemen, to ſet Work by Great, either by Feet, Yards, or Squares, by Tables ready calculated, belonging to Carpenters, Joyners, Bricklayers and Maſons, *&c.* and many other Queſtions, by extracting the Square and Cube-root,

Never before Printed.

By a Gentleman of the County of *Sallop.*

LONDON,
Printed for *Tho: Atkinſon*, at the *White Swan* in *St. Paul's Church-yard*, 1707.

BRITISH MUSEUM

TO THE HONOURABLE AND WORTHY GENTLEMEN *of the County of* SALLOP.

I Am not ignorant, Gentlemen, of the ſeveral Treatiſes ſent into the

World concerning Menſurations, but I never could meet with any of this kind, that does ſo plainly demonſtrate the erroneous way by buying by Gird-meaſure, and for your ſakes this is chiefly ſent into this our Hemiſphere, in hopes of imploring your Patronages of this mean Attempt, which will ſufficiently ſatisfy for any envious Reflection I may receive from thoſe, whoſe conceal'd Advantage is the chief Subject of, and diſcovery

covery in the enſuing Treatiſe.

For, I ſeeing and knowing, the great Advantages Timber-men get by Gird-meaſure and Taper Trees (and to add to their gain, ſome will have an Inch allow'd 'em for Bark) all which conſider'd, ſet me upon this Work, to diſcover the Advantage and Diſadvantage between the Buyer and Seller, and by this means I had the opportunity of paſſing *ſome part of a Solitary Life, in this Innocent Speculation, in order to make it practically beneficial to thoſe Honourable Perſons, to whom I addreſs.*

I am not altogether inſenſible of the exactneſs, required in all Arithmetical Calculations, eſpecially when us'd for demonſtration, I have endeavoured to make the enſuing Theorems anſwer that end, and hope that the Printer's Care will make an

Apollogy for the Errata's of the Preſs Needles.

If any one thinks I have uſed too many Words, in my way of Explanation, I have this to ſay, as on the one Hand I was willing by ſo doing, to gratifỳ meaner Capacities, ſo on the other Hand, I reſolv'd to avoid obſcurity by an affected brevity

Now in the laſt place, if this ſlender endeavour find accep-

acceptance with any, eſpecially of thoſe, whoſe uſe it was chiefly intended, I have hit my mark, and am,

Your moſt humble

Servant,

Baſil Wood.

THE PRINCIPAL CONTENTS OF THIS BOOK,

With the Page and Number anſwering

MEnſuration of Solids regular and irregular. p 3.
To find the ſolid Content of a Cube p. 4.
To find the Solid Content of a Paralellelopipedon or Solid Oblong p. 5,
To find the Content of unaqual ſided Timber p. 6.
To find the Solid Content of a Priſim p. 8
To find the Solid Content of a Stone or Piece of Timber, whoſe end is a regular Polygon p. 11

To

To find the Solid Content of a Cylinder p. 13.
To find the Solid Content of a Pyramid p. 14.
To find the Solid Content of a Cone p. 17
To Meaſure the Fruſtrum or Segment of a Pyramid or Cone p. 29
To find the ſolid Content of a Globe or Ball p. 27.
Twenty Propo*ſitions for Meaſuring a Globe or Ball.* p. 29.
To Meaſure a Spheriod p. 31.
To Meaſure a Segment of a Sphere p. 32.
To Meaſure a Kiln of Brick, whereby you may know what number of Bricks is contain'd in it p. 34.
How to Meaſure a Ship, that is, to find her Tonnage p. 35.
Errors in Timber Meaſure p. 37.

Explanation and uſe of the Tables.

A Table of Foot Meaſure, 12 *Inches being the integer, according to the Decimal*

cimal Fractions p 52
The uſe of the Decimal Table p. 53.
The Uſe of the following Table of Meaſuring Cord-Wood, by which you may find the Content of any Pile of Cord-Wood p. 85.
The Explanation and uſe of the Table p. 97.
The Line of Proportion commonly called Gunters-Line p.
To find the Area of a Triangle p. 145.

Of Circles.

To find the Diameter p. 148
To find the Area of a Circle ibid,
The Circumference given to find the Diameter. p. 149.
To Meaſure Timber by Gunter'*s Line* p. 151.
To find the ſolid Content of a Globe or Ball p. 155.
The Extraction of the Square and Cube Root p. 156.

The Proportion of Bullets and Metals p. 170.
How to make a Veſſel of any Form to hold any quantity of Liquor, Corn, &c. p. 173.
To find the ſide of a Cube to hold any Quantity of Liquid, or Dry Meaſure. p. 175.
A Table for Meaſuring Land p. 182.
This TABLE *reduceth Acres into ſquare Yards; in every Acre there is* 4840 *ſquare Yards.* p. 96.

BRITISH MUSEUM

GEOMETRY.

GEometry, *(Geometria)* an Art of due Proportion. Geometry Speculative, or Conſider'd as part of pure Mathematicks, is the Knowledge of Quantity, or Science of Magnitude.

Practical Geometry to Human uſes is the application of Theories, as Meaſuring of Land, Solids, Navigation, *&c.*

The uſe and benefit of this moſt Noble Science, is of ſuch weight and value, that we can hardly ſubſiſt without it, or at leaſtwiſe preſerve our ſelves from danger, or hinder the Eruption of Foreign Enemies. By Military Architect, the Fort is erected; the General brings his Army into a Batallion; the Quarter-Maſter ſets out his Quarters, and Incamps his Souldiers, the Engineer Plants his Cannon; and by which all manner of heights, depth and diſtances, whether acceſſable or inacceſſable are found out. It does not only terminate in Terreſtial Practices, but extendeth to Menſurations of Cœleſtial Bodies; as diſcovering the Magnitudes, Motions and Diſtance of the Sun, Moon and Stars; in fine it's of general uſe to all People as well as particular. The Gentleman knows how to Acre his Land and Map his Lordſhips, whereby he comes to the true eſtimate of it; he Meaſures his Trees and Timber, and comes to the knowledge to ſet all ſorts of Artificers to work, either by Feet, Yards or by Great; alſo Maſons, Brick-Layers, Carpenters and Joyners; which is a ſufficient encouragement for all Gentlemen to have a competent Knowledge in this moſt Noble Art.

Menſuration of Solids, Regular and Irregular.

REgular Solids are ſuch whoſe bounds are either ſtreight Lines or circular.

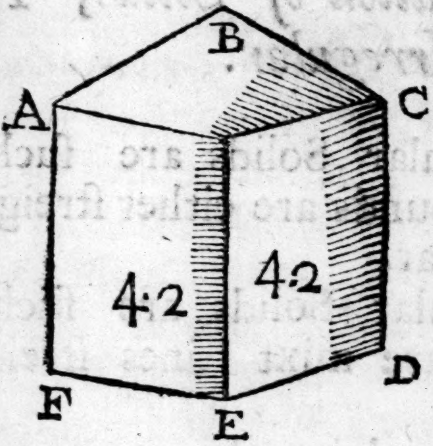
Irregular Solids are ſuch whoſe bounds are mixt Lines ſtreight and crooked.

As length is only proper to a Line, length and breadth to a Surface, ſo a Solid Body hath length, breadth and thickneſs.

For a Line multiply'd in it ſelf produces a Surface or a Geometrical Square, and that Square being Multiply'd agen, produces a Cube or Solid Body.

For if A. B. C. be 4.2 foot, which Multiply'd by it ſelf, produces a Square Surface, whoſe ſuperficial Area is 17 feet and 64. parts, and that Multiply'd agen gives the thickneſs and height, and ſo becomes a Solid Body, as A. B. C. D.

C.D.E. F. of length, breadth and thickneſs.



To find the Solid Content of a Cube.

Definition.

A Cube is a Solid Body containing equal or Square ſides, or a Parallelopipedon, terminated by ſix equal Squares like a Die.

The Rule.

Multiply the ſide by itſelf, and that product by the ſide agen, gives the Solid Content. *Ex-*

Example.

There's a Cube whoſe ſide is 4.2 Foot; how many Solid Feet is in it?

```
                    4.2
                    4.2
                  ------
                    84
                  168
                  ------
                  17.64
                    42
                 -------
                  3528
                 7056
                 -------
Solid Content    74.088
                 -------
```

To find the Solid Content of a Paralellopipedon, or Solid Oblong.

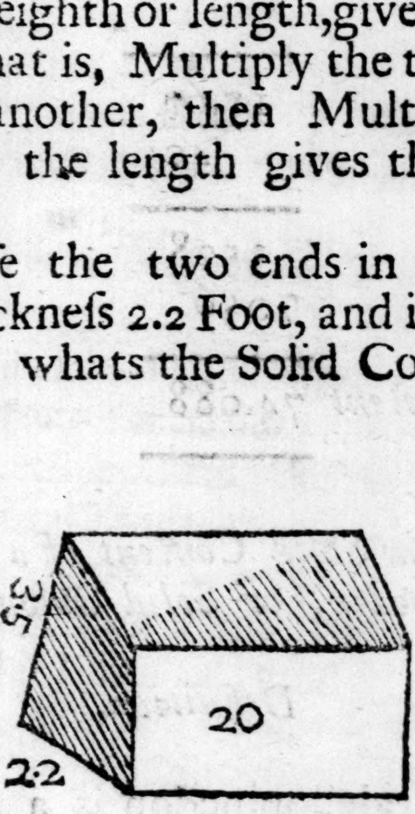
Definition.

A Paralellopipedon is a Solid Figure, conſiſting of ſix plain equal ſides, of which every one is equal and Paralel to that which is oppoſite to it, ſo that every Paralellopipedon may be called a Priſm.

The Rule.

Find the ſuperficial Content of any one of the Plains, and Multiply that into the heighth or length, gives the Solidity; that is, Multiply the two ſides one into another, then Multiply the Area by the length gives the Solid Content.

Suppoſe the two ends in breadth 3.5 in thickneſs 2.2 Foot, and in length 20 Foot; whats the Solid Content?



3.5
2.2

70
70

7.70
20

Solid Cont.-- 154.00

Note, By this Rule you may ſind the Content of any unequal ſided Timber.

The Vulgar way of meaſuring unequal ſided Timber, is by adding the two ſides together, and take half for the Square, which is a great error, as will appear by this one Example.

There's an unequal ſided Piece of Timber, that is, 4 Foot in breadth, and 2 Foot thick and 20 Foot in length ; whats the Solid Content.

Vulgar way - - - 4 } *added*
2

6

3 *Half for the Sq.*
Length--- 20

60
3

Solid Content.--- 180 Feet.

By the True way.

4
2

8 *Area of the ends.*
Length 20

Solid Content.-- 160

So that you plainly ſee, that the Vulgar way of Meaſuring, makes it no leſs then 20 Foot more than the Timber is.

The greater the unequality of the ſides, the greater the error.

To find the Solid Content of a Priſm.

Definition.

A Priſm ſignifies ſawing or cutting, but us'd in Geometry for a ſolid Figure, containing more than 4 Plains, whereof two are oppoſite to one another, equal, alike and Parallel, but the other are Parallelograms.

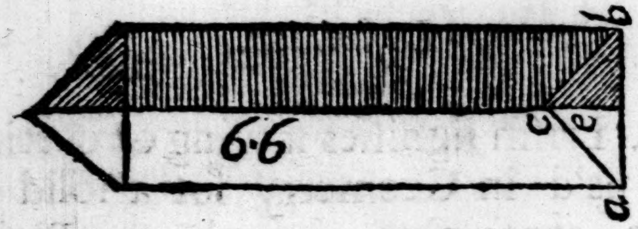
The Rule.

Multiply the Area of the Baſe by the length, that product will be the Solid Content.

Whether the Baſe be a Triangle, Square, Circle, or whatever elſe, gives the Solid Content.

Example.

There's a Priſm whoſe Baſe is a Triangle, as a b c the Baſe a b 2.4 the Perpendicular c e 1.7 Foot in length 6.6.; what's the Solid Content?



Perpendicular 1.7
Half the Baſe 1.2

34
17

2.04
6.6

1224
1224

Solid Content. 13.464

To find the ſolid Content of a Stone or Piece of Timber, whoſe end is a Regular Polygon.

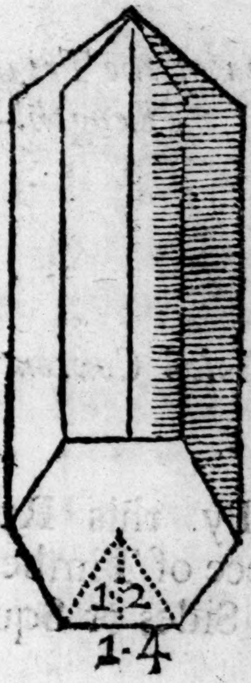
Definition.

Polygon, Polydron or Polygram, is a Geometrical Figure, conſiſting of many plain Faces, Angles and Lines.

The Rule.

Find the Area at the Baſe, then Multiply the Area by the length, gives the Solid Content.

This Polygon conſiſts of 6 ſides, which makes 6 Triangles, the Perpendicular falling from the Center to one of the ſides.



Example.

There's a Polygon in length 7.2 Foot, one of the ſides 1.4 Foot, the Perpendicular 1.2 Foot; what's the Solid Content?

	1.4	} *Sides*
	6	
Area of the Sides	8.4	
Half the Perpendicular	16	
Area of the Triangles	5.04	
Length———	7.2	
	1008	
	3528	
Solid Content.	36.288	

By this Rule you may find any piece of Timber, that has any number of Sides or Squares.

To

To find the Solid Content of a Cylinder.

Definition.

A Cylinder, properly a Rowler ſuch as us'd in Gardens, whence in Geometry 'tis us'd for any Solid Body of that ſhape, whoſe Baſe and Top are flat, the circumference of it's Baſe round, and it's ſhank long and ſtrait.

The Rule.

This is meaſured by the former Rules, by finding the Area at the Baſe, and Multiply it by the length, gives the Solid Content.

Example.

There's a Cylinder whoſe Diameter at the Baſe is 2 Foot, in length 4.4 Foot; what's the Solid Content?

You muſt find the Area of a Circle, by Squaring the Diameter and Multiply that product by .7854 finds the Area of a Circle.

2
2

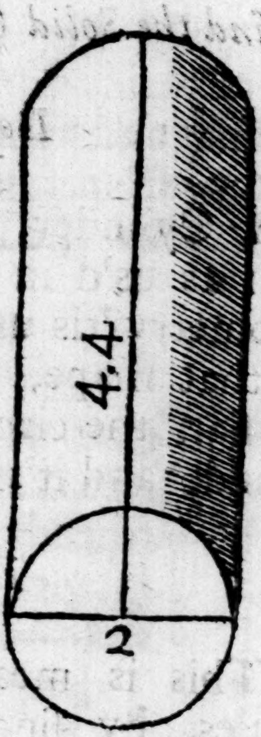
4

.7854
4

3.1416
4.4

125664
125664

13,82304



By this Rule you may meaſure all round Timber that is not taper.

To find the Solid Content of a Pyramid.

Difinition.

A Pyramid, [ſo called from the *Greek* word *Pyr*, ſignifying Fire, becauſe a Flame ends taper in a point] is a ſolid Figure, contained under divers plains which meet or terminate at one and the ſame point, being drawn from another plain, which is the Baſe of the Pyramid.

The Rule.

Find the Area at the Baſe, and Multiply that Area by one third part of the Perpendicular-height, gives the Solid Content.

This Rule holds good, whether the Baſe be Triangular, Quadrangular or Circular.

Example.

There's the ſide of a Square Pyramid, the Baſe 6 Foot, & 20 feet Lng what's the Solid Content.

6
6

Area at the 36
Base.

$\frac{1}{3}$ 36
12
20
240

3(20.00)6.66—3*d part of the alt.*
18

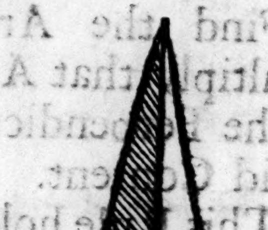
20
18

20

6.66
36

3996
1998

Solid Cont. 239.76



To

To find the Solid Content of a Cone.

Definition.

A Cone in *Greek* is properly a Pine-Apple, and from thence it's us'd by Geometricians, to ſignify a like Figure, it's Body with a round flat Baſe, upon which every ſide of it is placed ſo, as it ends at the top in a point, hanging directly over the center of the Baſe.

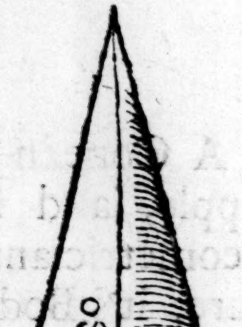
The Content of a Cone is found by the ſame rule as you find a Pyramid and it differeth only in this, the Baſe of a Cone is always a Circle, but the Baſe of a Pyramid is either a Square, Triangle, Polygon or a Rhombus.

There's a Cone the Baſe of which is 6 Foot, in height 30 Foot; what's the Solid Content?

Firſt find the Area of a Circle.

6
6
———
36
.785
———
180
288
252
———
28.260
10
———
282.600
———

942
30
———
2826.



The Axis of a Cone is a Line drawn from the Vertex, to the Center of the Baſe, as a c.

The reaſon you take the one third part of the altitude of a Pyramid to find the Solid Content, is becauſe every Piramid is the third part of a Priſm, that has the ſame Baſe and Altitude. *Euclid*, *Lib.* 12.

And a Cone is the third part of a Cylinder that has the ſame Baſe and Altitude.

All ſolids are in a Triplicat Proportion of their Homologus ſides. *Euclid, Lib.* 12. *Theo.* 33.

Suppoſe a Solid Cube whoſe ſide is 2 Foot, the Solid Content is 8 Foot, and I would have another Solid Cube as big agen; what muſt be the ſide of that Cube?

The Cube of 2 is 8, double 8, (becauſe it is to be as big agen) it makes 16, whoſe Cube Root is 2.52 Foot.

You ſee, that the ſide of a Cube which is to be as big agen, is but 2 Foot 6 Inches, and the 20th part of an Inch.

And here it is evident, that the ſide of the ſecond Cube cannot be double to the ſide of the firſt Cube, for if ſo then like ſolids were in ſuch proportion, as their ſides, which confutes all thoſe who imagine, that like ſolids are in the ſame ratio as their ſides.

Hence it is eaſie to ſolve that celebrated propoſition of the Duplication of the Cube, propoſed by the Oracle.

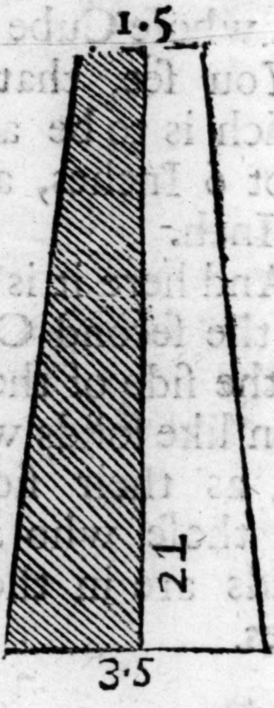
To Meaſure the Fruſtrum or Segment of a Pyramid or Cone.

Definition.

The Fruſtrum or Segment of a Pyramid or Cone, ſignifies in *Latin*, a bit or piece cut off, or ſeparated from any Body as the Fruſtrum of a Cone is part or piece thereof.

The Rule.

Find the Area of both the Baſes, then Multiply one by the other, and extract the Square Root of the product; this Square Root add to the Area of both Baſes, that ſumm Multiply'd by one third part of the Perpendicular height, the product is the Solid Content.



Note, That all tapering Timber or Stone, *&c.* whoſe Baſes are regular Figures, are Segments of either a Cone or Pyramid.

There's the ſide of the greater Baſe is 3.5 the ſide of the leſſer Baſe 1 5 the Perpendicular height 21 Foot; what's the Solid Content?

Leſſer Baſe	1.5	3.5	*Greater Baſe.*
	1.5	3.5	
	75	175	
	15	105	
Area--	2.25	12.25	
		2.25	
		6125	
		2450	
		2450	
		27.5625	

The Square Root of 27.56, is 5.25 Foot.

The

The Area of both Baſes	12.25
and Square	2.25
Root added	5.25
	19.75
One third of the Perpendicular	7
	138.25

The Solid Content of the Pyramid is, 138.25.

Or you may find the Solid Content of the Fruſtrum of a Square Pyramid, by this Rule.

To the triple product of the ſide below by the ſide above, add the Square of their difference, Multiply that ſum by the one third of the height, and the product will be the Solid Content.

In the laſt example the Pyramid at the Baſe is —— —— 3.5
The Leſſer Baſe —— —— 1.5

175
35

Triple—— 5.25
3

15.75
4

19.75
7

138.25

3.5
1.5

2.0
2

4 *Square of their difference.*

The Segment or Fruſtrum of a Cone is found by the laſt Rule.

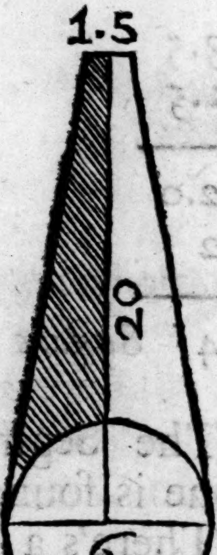
There's a Fruſtrum of a Cone, the Diameter at the Baſe 6 Foot, top Diamer 1.5 Foot, in length 20 Foot; what's the Solid Content?

6

6
6
36
2.25
180
72
72
81.00

1.5
1.5
75
15
2.25

The Square Root of
81 is 9.



The

The Area of both Baſes and Square Root added.	36.00 02.25 09.00
	47.25
One third part of the Alt.	6.66
	28350 28350 28350
Solid Content.	314.6850

3)20.000(6.66--*One third part of the Alt.*

The more readier way to find the Fruſtrum of a Cone, take this Rule.

To the product of the top and bottom Diameters, add the Areas of both Baſes, and Multiply the product by one third part of the Altitude, gives the Solid Content.

4
2

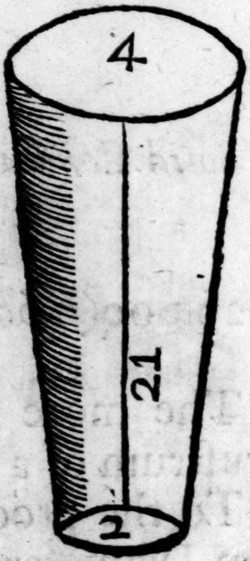
8 *Product.*

4
4

16 *Area.*

2
2

4 *Area.*



16
08
04

28
One third part. 7

Content. 196

To

To find the Solid Content of a Globe or Ball.

Cube the Diameter and Multiply the product by .5235.

There's a Ball 2.2 Foot Diameter; What's the Solid Content?

2.2
2.2

44
44

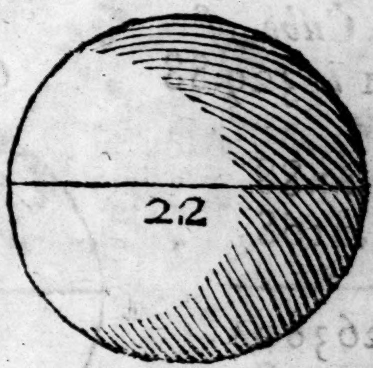
4.84
2.2

968
968

10.648
.5235

53240
31944
21296
53240

5,5742280 *Solid Content.*



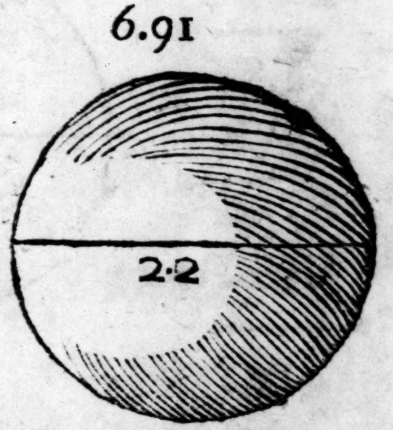
The Circumference of a Globe or Ball given to find the Solid Content.

The Rule.

Cube the Circumference, and Multiply the product by .016887.

There's a Circumference of a Ball 6.91 Feet; What's the Solid Content?

The Cube of
6.91 is 329.88



329.88
.0168

263804
197928
32988

5.541884 *Solid Content.*

Twenty Propoſitions for Meaſuring a Globe or Ball.

Put
D=Diameter.
P=Circumference.
A=Superficial Content.
S=Solidity.
□ The ſide of a Square.
∈ Side of a Cube.

Given D. 4.5 *to find*	P	D × by 3.14159=P
	A	D D × by 3.14159=A
	S	D D D × by .523598=S
	□	D × by 1.53454=□
	∈	D × by .806=∈

Given P 14.13 *to find*	D	P × by .31831=D
	A	P P × by .31831=A
	□	× by .50019=□
	S	P P P × by .016887=S
	∈	P × by .256556=∈

Given a *to find*	D	A × by .31831=D
	P	A × by .314159=P P

The Square Root gives the Dia. and Circ.

$$\textit{Given S. to find}\ \left\{\begin{array}{l}D\\ P\\ \in\end{array}\right\}\ \begin{array}{l}S \times \text{by } 1.90855=DDD\\ P \times \text{by } 59.21715=PPP\\ \in\ \surd=\in \text{ Cube Root.}\end{array}$$

Cube Root gives the Diameter.

The Cube Root of S. *will be the ſide.*

$$\textit{Given}\ \square\ \textit{to find}\ \left\{\begin{array}{l}S\\ P\end{array}\right\}\ \begin{array}{l}\square \times \text{by } .56419\\ \square \times \text{by } 1.77245\end{array}$$

$$\left\{\begin{array}{l}D\\ P\\ S\end{array}\right\}\ \begin{array}{l}\in \times \text{by } 1.240695=D\\ \in \times \text{by } 3.897784=P\end{array}$$

Explanation.

D × is Multiply the Diameter by 3.14159, gives the Circumference.

D D × is Square the Diameter, and Multiply by 3.14159, gives the Superficial Content.

D D D Cube the Diameter, Multiply by .513598, give the Solid Content.

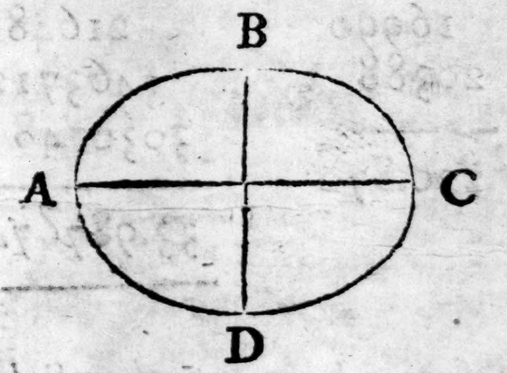
And the *P's* ſignifies the ſame, *&c.*

To Meaſure a Spheroid.

Definition.

A Spheroid is a Solid Oval Generated by a Motion of an Elipſis upon its Tranvers or longeſt Diameter, in ſhape like a Pumpkin, as the Figure A. B. C. D.

The ſhorteſt Diam.——B D——6.58
The longeſt Diam.——A C ——9.75



The Rule.

Square the ſhorteſt Diameter, and Multiply the product by .7854 finds the Area of the leſſer Circle, this Area

Multiply'd by two thirds of the longeſt Diameter, the product is the Solid Content.

3)9.75(325
6 3.25 } 2 *thirds*
15 6.50

33.98
6.5
16990
20388
*Sol. Cont.*220.870

6.58
6.58
5264
3290
3948
43.2964
.785
2164820
3463712
3030748
33.9876740

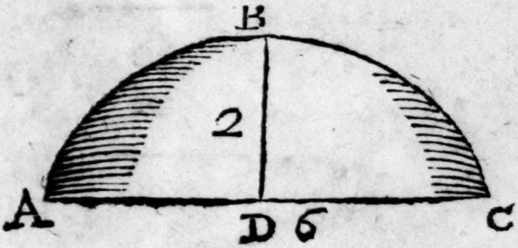
To Meaſure a Segment of a Sphere.

Definition.

The Segment of a Sphere or Globe, is a piece cut off, like a ſlice of an Apple, as the Figure A B C D. *The*

The Rule.

Multiply the treeble height of the Segment B D, by the Square of the Radius A D or D C of the Segments Baſe, adding to the product the Cube of the Segments height, that ſumm Multipiy by .5235 give the Solid Content.



Example.

What's the Solid Content of the Segment whoſe height B D is two Foot, and the Diameter A C. 6 Foot.

Radius ——— 3
3
———
Square ——— 9
Treeble Height ——— 6
———
54
Cube of the Segm. height- 8
———
62
.523
———
186
124
310
———
Solid Content.-- 32.426
———

To Meaſure a Kiln of Brick, whereby you may know what number of Brick is contain'd in it.

There's a Kiln of Brick, in lenght 62 Bricks, in breadth 22, and in height 32 Bricks. How many Brick is there in the Kiln?

Multiply the length by the breadth, and that product by the height, gives the number of Bricks.

```
                  62
                  22
              ———————
                 124
                124
              ———————
                1364
                  32
              ———————
                2728
               4092
              ———————
Number of Bricks-- 43648
              ———————
```

How to Meaſure a Ship, that is, to find her Tonnage.

The Rule.

Multiply the breadth of the Ship, that is, the length of the Mid-ſhip-beam, by the half breadth, and that product by the length of the Keel, gives the Solidity in Cubical Feet, Divide the laſt product by 94, the Quotient will be the Tonnage of the Ship.

Example.

The Ships Keel 84

The breadth of the Beam-26
The half breadth——— 13

78
26

338
Ships Keel ——— 84

1352
2704

94)28392(302 *Tuns.*

Shews

Shews the great advantage Timber Men get by Gird-meaſure and Taper Trees.

Errors in Timber Meaſure.

When a piece of Timber is not Square, but broader then it is thick, it is common with many in ſuch caſes to add the breadth and thickneſs together, and take half the ſum for the true ſide of the Square, is apparently falſe.

For ſuppoſe a piece of Timber be 3.3 Foot broad, in thickneſs 1.5 Foot, and 20 Foot in length; What's the Solid Content?

By the Erronious way.

3.3
1.5
———
4.8
———
The Square ——— 2.4
20
———
48.0
2.4
———
192
96
———
Solid Content. ---- 115.20

To ſind the true Content, ſind the Area of the Baſe, by Multiplying one by the other, that product Multiply by the length, gives the Solid Content.

Example.

	3.3
	1.5
	165
	33
Area of the Baſe	4.95
	20
Solid Content.	99.00

The Erronious way - - - 115.20
The true Content - - - - 099.00

Difference — — 16.20

In this Example the Seller gains 16 Foot and 20 parts, and the Buyer loſeth ſo much.

There's alſo a ſecond Error in Meaſuring both Round and Square Timber, that is, bigger at one end than the other, that is, Girding it in the middle, which cuſtom is very Erronious, as it will appear in the following Example.

There's a Square Tree, the greater end 3.52 Foot, the leſſer end 1.32 Foot in length 33 Foot; What's the Solid Content?

By the common, or falſe way.

3.52
1.32

Sum of the Sides 4.84

The Square — 2.42 *Length*

Length of the Tree 33
Square ———— 2.42

66
132
66

79.86
2.42

15972
31944
15972

Solid Content 193.2612

The true Content is found as you do a Fruſtrum of a Cone.

The Rule.

To the product of the top and bottom Diameters add the Areas of both Baſes, and Multiply that product by the one third part of the Altitude gives the Solidity.

In

In the laſt Example.

The greater Baſe ——— 3.52
Leſſer ——— 1.32

3.52
3.52
704
1360
1056
12.3904

1.32
1.32
264
396
132
1.7424

704
1056
352
Product-4.6464
12.3904
01.7424
18.7792
One 3d part. 11
187792
187792
206.5712

The true Content ——— 206.57
Erronious way ——— 193.26
Difference ——— 13.31

The Third Example.

There's a taper Tree that is 4 Foot Square at the bigger end, and 6 Inches Square at the leſſer end, and in length 33 Foot; What's the Solid Content?

By the Erronious way.

The Square of this Tree in the middle will be but two Foot 3 inches or 2.25 Foot.

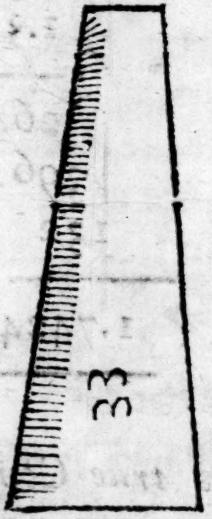
33
2.25

165
66
66

74.25
2.25

37125
14850
14850

Cont. 167.0625



The true Content is found as you do a Fruſtrum of a Cone, as you did by the foregoing Rule.

The true Content will be found to be	200.75
The falſe Content ——	167.62
Difference —— ——	33.13

The more taper the Timber is, the greater the Error.

There is yet a fourth Error which is more frequent than any, committed in Meaſuring Round Timber, that is, They take the fourth part of the Gird of a piece of round Timber, for a ſide of a Square, equal to ſuch a Gird, which is a very great Error, as it will ap- by the following Example.

Let the Gird of a Tree be 12 Foot; What's the ſide of a Square equal thereto? By this way taking the 4th part, it is 3 Foot, but in truth it is 3.38 Foot, for the Square Root of the Area of a Circle whoſe circumference is 12 Foot, is 3 Foot 4 Inches and a half, which is 4 Inches and a half more than by Gird Meaſure.

By Gird Meaſure.

There's a Tree in length —— 32
Square —— —— —— 03

96
3

Solid Content. 288

By the true way.

Length 32
Square 338

256
96
96

108.16
3.38

86528
32448
32448

True Content 365.5808

Falſe way	288
Difference	77.5808

In the laſt Example the Buyer gains 77 Foot, or one Tun and 27 Foot, in 3 Tun and 38 Foot.

But if the Buyer gains by his Gird Meaſure, one Tun in five, and in every 100 Tun he'll gain 20 Tun, it's great gain; by this laſt Example it appears to be more.

But let us ſee how near the truth, it will come, if we allow but 40 Foot to the Tun, inſtead of 50 Foot.

The true Content 365 Foot, at 50 Foot to the Tun. 07--15. Tun

By Gird Meaſure 288 Foot, at 40 Foot to the Tun 07--08, the difference is but 00 : 07.

Notwithſtanding the great gain the Timber-Men get, yet they are not ſatisfy'd, but ſome will have an Inch allowed 'em for Bark in the Square, which is moſt unreaſonable, as in this Example it will plainly appear.

Suppoſe a Tree, as in the laſt Example to be in length 32 Foot, and 3 Foot Square, but allowing an Inch for Bark, the Square will be but 2 Foot and 11 Inches, or Decimally 2.92 Foot. What's the Content ?

	Feet.
The Solid Cont. you'll find it to be -	272.84
The true Content is ——	365.58
The Gain is —— ——	092.74

Which is almoſt 2 Tun in 7 Tun.

The Explanation and Uſe of the Tables of Timber Meaſure.

The Tables conſiſt of five Columns, the firſt Table to the Left Hand is the length of the Timber in Feet, from 1 Foot to 30, the other 4 Columns ſhews the Solid Content in Feet and Dicimal parts of a Foot.

The firſt Page on the Head of the Table, begins the Circumference of all Round Timber, from 2 Foot to 12 Foot Circumference, and proceeds on the head of every Page, from 2 Foot 1 Inch, 2 Foot 2 Inches, 2 Foot 3 Inches, to 2 Foot 11 Inches Circumference, *&c.*

In the ſecond Column on the Head, you have the Square of a Circle equal to the Circumference of all Round Timber.

An Example or two will make it more plain.

Example the Firſt.

There's a Tree whoſe Circumference is 8 Foot and length 21 Foot; what's the Solid Content? Look on the Head of the Table for 8 Foot, and in the firſt Collumn againſt 21, you'll find 106 Foot and 30 parts, which is the Content of the Tree.

Example the Second.

There's a Tree in Circumference 8 Foot 6 Inchess, and in length 30 Foot; what's the Content?

Look on the Head of the Table for 8 Foot 6 Inches, and under the Column of 6 Inches over againſt 30, you'll find 172 and 80 parts, the Content.

Example the Third.

There's a Tree in Circumference 12 Foot and in length 40 Foot; What is the Content?

In this Example the length of the Tree exceeds the Table, therefore take it at twice, firſt find the Content at 30 Foot, and add 'em together, gives the Conteut of the whole Tree.

Look for 12 Foot at the Head of the Table.

A Tree of 30 *Foot in length*---	332.60
A Tree of 10 *Foot in length is*--	114.20
	456.80

But according to Gird Meaſure a Tree that is 12 Foot in Circumference, (taking the 4th part for the Square) will be but 3 Foot Square and 40 Foot in length; What's the Content.

$$\begin{array}{r} 40 \\ 3 \\ \hline 120 \\ 3 \\ \hline \textit{Solid Content.--}\ 360 \\ \hline \end{array}$$

The true Content	456.80
By Gird Meaſure	360.80
Gain	96.80

This, I hope, is ſufficient demonſtration, in ſhewing the great gain, between the Buyer and Seller.

Sometimes it may happen the length of the Tree exceeds the Table in this caſe, you may either take the length at twice, and add 'em together, or elſe you may find the Area of the Cir-

cum-

cumference of one Foot at the top of the Table, and Multiply that by the length gives the Content.

Example.

There's a Tree whoſe Circumference is 6 Foot, and in length 50 Foot, What's the Content?

Turn to 6 Foot, and on the Head of the Table againſt one Foot you'll find 2.85 for the Area.

50

Cont. 142.50 *Feet.*

There's a Tree 8 Foot 3 Inches Circumference, and in length 44 Feet; What's the Content?

Turn to 8 Foot and 3 Inches, and on the Head of the Table, you'll find (againſt one Foot, and under 3 Inches) 05.38 for the Area.

Then Multiply the Area by the length, gives the Solid Content.

The Area 05.38
Length 44

2152
2152

Content - 236.72

By the Table, the half length is 22, the Content you'll find - 118.36
118.36

Content -- 236.72

A Table of Foot Measure 12 Inches being the integer, according to the Decimal Fractions.

In.	*quar.*	*Decimal parts.*	*In.*	*quar.*	*Decimal parts.*
	1	.02083		1	.52083
	2	.04126		2	.54166
	3	.06250		3	.5625
1	0	.08333	7	0	.5833
	1	.10416		1	.60416
	2	.12449		2	.62429
	3	.14502		3	.64502
2	0	.16535	8	0	.66535
	1	.18568		1	.68568
	2	.20823		2	.70833
	3	.22918		3	.72918
3	0	.25	9	0	.75
	1	.27083		1	.77083
	2	.29166		2	.79166
	3	.31250		3	.8125
4	0	.3333	10	0	.8333
	1	.35416		1	.85416
	2	.375		2	.875
	3	.3583		3	.8958
5	0	.4166	11	0	.9166
	1	.4375		1	.9375
	2	.45833		2	.9583
	3	.47918		3	.97916
6	0	.50	12	0	.100000

The uſe of the Decimal Table.

Note, Altho' the Decimal Fractions conſiſt of 4 or 3 Figures in the Table yet two Dicimal Fractions are ſufficient for the practical part in Menſurations.

There's a Tree the Circumference is 4 Foot and 2 Inches, and in Length 24 Foot, you'll find the Content by the Table to be 32 and 64 parts of a Foot.

If you deſire to know how many Inches is 64 parts, look in the Decimal Table you will find .64502 againſt which is 7 Inches and 3 quarters.

There is a Tree whoſe Content is 45 Foot and 75 parts or 45 Foot and 9 Inches, as you'll find by the Decimal Table.

Note, One quarter is	.25	*Parts.*
Half a Foot —— ——	.50	
Three Quarters ——	.75	

Length in Feet.

Circum	0 0 0		1 *Inch.*		2 *Inch.*		3 *Inch.*	
1 *Foot.*	*Square In. Pts.* 6 77		*Square In. P.* 7 05		*Square In. P.* 7 33		*Square In. P.* 7 66	
F. P.	F.	P.	F.	P.	F.	P.	F.	P.
01	00	31	00	33	00	37	00	40
02	00	62	00	67	00	74	00	81
03	00	94	01	00	01	11	01	22
04	01	25	01	33	01	48	01	63
05	01	56	01	67	01	86	02	04
06	01	88	02	00	02	23	02	45
07	02	19	02	34	02	60	02	86
08	02	51	02	68	02	97	03	27
09	02	83	03	01	03	34	03	68
10	03	10	03	30	03	72	04	00
11	03	44	03	70	04	09	04	50
12	03	76	04	03	04	46	04	91
13	04	07	04	37	04	83	05	32
14	04	38	04	70	05	20	05	73
15	04	40	05	04	05	58	06	14
16	04	71	05	38	05	95	06	55
17	05	33	05	71	06	32	06	96
18	05	66	06	05	06	69	07	37
19	05	90	06	39	07	06	07	78
20	06	20	06	70	07	44	08	80
21	05	58	07	06	07	81	08	59
22	06	89	07	40	08	18	09	00
23	07	21	07	73	08	55	09	40
24	07	52	08	07	08	92	09	81
25	07	83	08	41	09	30	10	22
26	08	15	08	74	09	67	10	63
27	08	46	09	08	10	04	11	04
28	08	77	09	41	10	41	11	45
29	09	09	09	75	10	79	11	86
30	09	90	10	09	11	16	12	00

Circum	*4 Inch.*		*5 Inch.*		*6 Inch.*		*7 Inch.*	
	Square		*Square*		*Square*		*Square*	
2 *Foot.*	*In.*	*P.*	*In.*	*P.*	*In.*	*P.*	*In.*	*P.*
	7	89	8	18	8	46	8	74
Length	F.	P.	F.	P.	F.	P.	F.	P.
01	00	41	00	46	00	51	00	53
02	00	83	00	92	01	03	01	06
03	01	25	01	74	02	07	02	13
04	01	67	02	20	02	59	02	66
05	02	08	02	66	03	11	03	19
06	02	50	02	66	03	62	03	73
07	02	92	03	12	03	26	04	26
08	03	30	03	59	04	66	04	26
09	03	75	04	05	04	66	04	79
10	04	10	04	62	05	10	05	30
11	04	59	05	08	05	70	05	86
12	05	01	05	54	06	22	06	33
13	05	42	06	01	06	73	06	92
14	05	81	06	47	07	25	07	46
15	06	26	06	93	07	77	07	99
16	06	68	07	39	08	29	08	52
17	07	09	07	86	08	81	09	06
18	7	51	08	32	09	33	09	59
19	07	93	08	78	09	48	10	12
20	08	30	09	24	10	30	10	60
21	08	76	09	31	10	88	11	19
22	09	18	09	77	11	40	11	72
23	09	95	10	29	11	92	12	25
24	10	01	10	63	12	44	12	79
25	10	43	11	15	12	96	13	32
26	10	84	11	52	13	47	13	85
27	11	26	11	98	13	99	14	38
28	11	68	12	44	14	51	14	82
29	12	10	12	90	15	03	15	35
30	12	51	13	80	15	50	15	80

Length in Feet.

Circum	*8 Inch.*		*9 Inch.*		*10 Inc.*		*11 Inc.*	
2 *Foot.*	*Square In.*	*P.*	*Square In.*	*P.*	*Square Iu.*	*P.*	*Square In.*	*P.*
	9	02	9	30	9	59	9	87
Length	F.	P.	F.	P	F.	P.	F.	P.
01	00	56	00	59	00	64	00	67
02	01	12	01	18	01	28	01	34
03	01	68	01	77	01	92	02	01
04	02	25	02	37	02	56	02	68
05	02	81	02	96	03	20	03	36
06	03	37	03	55	03	84	04	03
07	03	83	04	15	04	48	04	70
08	04	40	07	74	05	12	05	37
09	04	96	05	33	05	76	06	05
10	05	60	05	90	06	40	06	70
11	06	18	06	52	07	04	07	39
12	06	75	07	11	07	64	08	06
13	07	31	07	70	08	28	08	74
14	07	87	08	30	08	92	09	41
15	08	43	08	89	09	56	10	08
16	09	00	09	48	10	20	10	75
17	09	56	10	07	10	84	11	43
18	10	12	10	67	11	48	12	10
19	10	68	11	26	12	12	12	77
20	11	20	11	80	12	80	13	44
21	11	81	12	45	13	44	14	12
22	12	37	13	04	14	08	14	79
23	12	93	13	63	14	72	15	46
24	13	50	14	22	15	36	16	13
25	14	06	14	82	16	00	16	81
26	14	62	15	31	16	64	17	84
27	15	18	15	90	17	28	18	15
28	15	75	16	50	17	92	18	82
29	16	31	17	09	18	56	19	49
30	16	80	17	70	19	20	90	10

Length in Feet.

Circum	0 0 0		1 *Inch*.		2 *Inch*		3 *Inch*.	
	Square		*Square*		*Square*		*Square*	
3 *Foot*.	*In.*	*P.*	*In.*	*P.*	*In.*	*P.*	*In.*	*P.*
	10	15	10	44	10	72	11	00
Length	F.	P.	F.	P.	F.	P.	F.	P.
01	00	70	00	75	00	79	00	89
02	01	41	01	51	01	58	01	69
03	02	11	02	27	02	37	02	53
04	02	82	03	02	03	16	03	38
05	03	53	03	78	03	36	04	23
06	04	24	04	54	04	75	05	07
07	04	94	05	29	05	54	05	92
08	05	65	06	05	06	33	06	77
09	06	36	06	81	07	12	07	61
10	07	00	07	50	07	90	08	46
11	07	76	08	32	08	71	09	31
12	08	46	09	08	09	50	10	15
13	09	71	09	83	10	29	11	00
14	09	87	10	59	11	08	11	84
15	10	58	11	35	11	88	12	69
16	11	28	12	11	12	67	13	54
17	11	99	12	86	13	46	14	38
18	12	70	13	62	14	25	14	23
19	13	40	14	38	15	04	16	08
20	14	00	15	05	15	80	16	92
21	14	81	15	89	12	53	17	77
22	15	42	16	65	17	32	18	62
23	16	22	17	40	18	11	19	46
24	16	93	18	16	18	91	20	31
25	17	63	18	92	19	70	21	15
26	18	34	19	67	20	49	22	00
27	19	05	20	43	21	28	22	85
28	19	75	21	19	22	07	23	69
29	20	46	21	95	22	87	24	54
30	21	00	22	[illegible]	23	70	26	39

Length in Feet.

Length in Feet.

Circum.	4 *Inch.* *Square*		5 *Inch.* *Square*		6 *Inch.* *Square*		7 *Inch.* *Square*	
3 *Foot.*	*In.*	*P.*	*In.*	*P.*	*In.*	*P.*	*In.*	*P.*
	11	28	11	57	11	85	12	13
Leng.	F.	P.	F.	P.	F.	P.	F.	P.
01	00	88	00	92	00	96	01	01
02	01	76	01	84	01	92	02	02
03	02	65	02	76	02	88	03	03
04	03	53	03	68	03	84	04	04
05	04	41	04	60	04	80	05	05
06	05	30	05	52	05	76	06	06
07	06	18	06	45	06	72	07	07
08	07	06	07	37	07	68	08	08
09	07	95	08	29	08	64	09	09
10	08	80	09	20	09	60	10	10
11	09	71	10	13	10	56	11	11
12	10	60	11	05	11	52	12	12
13	11	48	11	98	12	48	13	13
14	12	37	12	90	13	44	14	14
15	13	28	13	82	14	40	15	15
16	14	16	14	84	15	36	16	16
17	15	05	15	66	16	32	17	17
18	15	93	16	58	17	29	18	18
19	16	81	17	51	18	25	19	19
20	17	60	18	40	19	20	20	20
21	18	48	19	35	20	16	21	01
22	19	36	20	27	21	12	22	02
23	20	25	21	19	22	08	23	03
24	21	13	22	11	23	04	24	04
25	22	02	23	04	24	01	25	05
26	22	90	23	96	24	97	26	06
27	23	78	24	88	25	93	27	07
28	24	67	25	80	26	89	28	08
29	25	55	26	72	27	85	29	09
30	26	50	27	60	28	81	30	30

	Circum.	8 Inch.		9 Inch.		10 Inch.		11 Inch.	
		Square		Square		Square		Sqnare	
	3 Foot.	In.	P.	In.	P.	In.	P.	In.	P.
		12	41	12	69	12	98	13	26
	Leng.	F.	P.	F.	P.	F.	P.	F.	P.
Length in Feet.	01	01	08	01	14	01	20	01	21
	02	02	16	02	28	02	41	02	42
	03	03	24	03	42	03	61	03	63
	04	04	33	04	56	04	82	04	84
	05	05	41	05	71	06	02	06	05
	06	05	59	06	85	07	23	07	26
	07	07	68	08	09	08	43	08	47
	08	08	76	09	23	09	64	09	68
	09	09	84	10	37	10	84	10	89
	10	10	80	11	40	12	00	12	10
	11	11	91	12	56	13	25	13	31
	12	12	99	13	70	14	46	14	52
	13	14	07	14	84	15	66	15	73
	14	15	16	15	98	16	97	16	94
	15	16	14	17	43	18	17	18	15
	16	17	22	18	27	19	38	19	36
	17	18	31	19	41	20	58	20	57
	18	19	39	20	55	21	79	21	78
	19	20	47	21	69	22	99	22	99
	20	21	60	22	80	24	00	24	20
	21	22	74	23	98	25	30	25	41
	22	23	82	25	12	26	51	26	62
	23	24	90	26	26	27	71	27	83
	24	25	99	27	40	28	52	29	04
	25	27	07	28	54	30	12	30	25
	26	28	15	29	68	31	33	31	46
	27	29	24	30	82	32	53	32	67
	28	30	32	31	96	33	74	33	88
	29	31	40	33	10	34	94	35	19
	30	32	40	34	20	36	00	36	30

Length in Feet.

Circum.	0 0 0		1 *Inch.*		2 *Inch.*		3 *Inch.*	
	Square		*Square*		*Square*		*Square*	
4 *Foot.*	*In.*	*P.*	*In.*	*P.*	*In.*	*P.*	*In.*	*P.*
	13	54	13	82	14	10	14	38
Leng.	F.	P.	F.	P.	F.	P.	F.	P.
01	01	27	01	32	01	36	01	44
02	02	58	02	64	02	27	02	48
03	03	81	03	96	04	08	04	32
04	05	08	05	28	05	44	05	76
05	06	35	01	60	06	80	07	20
06	07	67	07	92	08	16	03	64
07	08	89	09	24	09	52	10	10
08	10	16	10	56	10	88	11	58
09	11	43	11	88	12	24	12	92
10	12	70	13	20	13	60	14	46
11	13	97	14	52	14	96	15	84
12	15	24	15	84	16	32	17	28
13	16	51	17	16	17	63	18	72
14	17	78	18	48	19	04	20	16
15	19	05	19	80	20	40	21	60
16	20	32	21	12	21	76	23	04
17	21	59	22	44	23	12	24	48
18	22	86	23	76	24	48	25	52
19	24	13	25	08	25	84	27	36
20	25	40	26	40	27	20	28	80
21	26	67	27	72	28	56	30	24
22	27	94	29	04	29	91	31	68
23	29	21	30	36	31	28	33	16
24	30	41	31	68	31	64	34	55
25	31	75	33	00	34	00	36	00
26	33	02	34	32	35	36	37	44
27	34	29	35	64	36	72	38	88
28	35	56	36	96	38	08	40	32
29	36	83	38	28	39	44	41	76
30	38	10	39	60	40	80	43	20

Cicum.	*4 Inch.*		*5 Inch.*		*6 Inch.*		*7 Inch.*	
	Square		*Square*		*Square*		*Square*	
4 *Foot.*	*In.*	*P.*	*In.*	*P.*	*In.*	*P.*	*In.*	*P.*
	14	69	14	95	15	22	15	51
Leng.	F.	P.	F.	P.	F.	P.	F.	P.
01	01	48	01	53	01	61	01	66
02	02	97	03	07	03	22	03	32
03	04	46	04	61	04	84	04	99
04	05	95	06	14	06	45	06	65
05	07	44	07	68	08	07	08	32
06	08	91	08	82	09	68	09	98
07	10	41	10	35	11	29	11	64
08	11	90	11	89	12	90	13	31
09	13	39	13	43	14	51	14	97
10	14	80	13	30	16	10	16	60
11	15	36	16	90	17	73	18	30
12	16	85	18	44	19	34	19	96
13	18	34	19	58	20	95	21	63
14	19	83	21	51	22	56	23	29
15	21	32	23	05	24	18	24	96
16	22	80	24	59	25	79	26	62
17	24	39	25	12	27	30	28	29
18	25	88	27	66	28	91	29	95
19	27	37	29	20	30	52	31	62
20	29	60	30	70	32	20	33	20
21	30	24	32	27	73	85	34	94
22	31	73	33	81	35	46	36	60
23	33	22	35	35	37	07	38	27
24	34	71	36	88	28	68	39	93
25	36	20	38	43	40	30	41	60
26	37	68	39	96	41	91	43	26
27	39	17	41	49	43	52	44	92
28	40	66	43	03	45	13	46	59
29	42	15	44	57	46	74	48	25
30	44	60	46	00	28	20	49	92

Length in Feet.

Length in Feet.

Circum.	*8 Inch.*		*9 Inch.*		*10 Inch.*		*11 Inch.*	
	Square		*Square*		*Square*		*Square*	
4 *Foot.*	*In.*	*P.*	*In.*	*P.*	*In.*	*P.*	*In.*	*P.*
	15	89	16	18	16	36	16	63
Leng.	F.	P.	F.	P.	F.	P.	F.	P.
01	01	74	01	82	01	84	01	90
02	03	48	03	64	03	69	03	80
03	05	22	05	46	05	54	05	71
04	06	96	07	28	07	39	07	61
05	08	71	09	21	09	24	09	52
06	10	54	11	03	11	09	11	42
07	12	19	12	85	12	94	13	32
08	13	93	14	67	14	79	15	22
09	15	67	16	59	16	64	17	13
10	17	40	18	20	18	49	19	00
11	19	16	20	04	20	33	20	94
12	20	90	21	86	21	18	22	84
13	22	64	23	68	23	03	24	75
14	24	38	25	50	25	88	26	65
15	26	13	27	33	27	73	28	56
16	27	87	29	15	29	58	30	4
17	29	61	30	97	31	43	32	3
18	31	35	32	79	33	28	34	2
19	33	09	34	61	35	13	36	1
20	34	80	36	40	36	80	38	00
21	36	58	38	26	38	82	39	98
22	38	32	40	08	40	67	41	88
23	40	06	41	90	42	52	43	79
24	41	80	43	72	44	37	45	69
25	43	55	45	55	45	22	47	60
26	45	29	47	37	48	07	49	50
27	47	03	49	19	49	92	51	40
28	48	77	51	01	51	77	53	31
29	50	51	52	89	53	62	55	21
30	52	20	54	60	55	40	57	00

Length in Feet.

Circum.	0 0 0		1 *Inch.*		2 *Inch.*		3 *Inch.*	
5 *Foot.*	*Square* *In.*	*P.*	*Square* *In.*	*P.*	*Square* *In.*	*P.*	*Square* *In.*	*P.*
	16	92	17	21	17	49	17	77
Leng.	F.	P.	F.	P.	F.	P.	F.	P.
01	01	98	02	04	02	12	02	19
02	03	87	04	08	04	24	04	38
03	05	86	06	13	06	46	06	57
04	07	85	08	17	08	56	08	76
05	09	84	10	22	10	70	10	95
06	11	82	12	26	12	82	13	14
07	13	81	14	30	14	94	15	33
08	15	80	16	35	17	06	17	52
09	17	79	18	39	19	18	19	71
10	19	80	20	40	21	20	21	90
11	21	76	22	48	23	33	24	09
12	23	75	24	52	25	45	26	28
13	25	74	26	57	27	57	28	47
14	27	73	28	61	29	69	30	66
15	29	72	30	66	31	81	32	85
16	31	70	32	70	33	93	35	04
17	33	78	34	74	36	05	77	23
18	35	77	36	79	38	17	39	42
19	37	76	38	83	40	29	41	61
20	39	70	40	80	42	40	43	80
21	41	74	42	92	44	54	45	99
22	43	73	44	96	46	66	48	18
23	45	72	47	01	48	78	50	37
24	7	71	49	05	50	86	52	56
25	49	70	51	10	52	98	54	75
26	51	68	53	14	55	10	56	94
27	53	67	55	18	57	22	59	13
28	55	66	57	23	59	34	61	32
29	57	62	59	27	61	46	63	51
30	59	60	61	20	63	60	65	70

	Circum.	4 Inch.		5 Inch.		6 Inch.		7 Inch.	
		Square		*Square*		*Square*		*Square*	
	5 *Foot.*	*In.*	*P.*	*In.*	*P.*	*In.*	*P.*	*In.*	*P.*
		18	05	18	34	18	62	18	90
	Leng.	F.	P.	F.	P.	F.	P.	F.	P.
Length in Feet.	01	02	25	02	30	02	40	02	46
	02	04	50	04	60	04	80	04	92
	03	06	75	06	90	07	20	07	39
	04	09	00	09	20	09	60	09	85
	05	11	25	11	50	12	01	12	30
	06	13	50	13	80	14	41	14	76
	07	15	75	16	10	16	81	17	22
	08	18	00	18	40	19	21	19	69
	09	20	25	20	70	21	61	22	15
	10	22	50	23	00	24	00	24	60
	11	24	75	25	30	26	42	27	10
	12	27	00	27	00	28	82	29	56
	13	29	25	29	90	31	22	32	03
	14	31	50	32	20	33	62	34	49
	15	33	75	34	50	36	03	36	96
	16	36	00	36	80	38	43	39	42
	17	38	25	39	10	40	83	41	88
	18	40	50	41	40	43	23	44	35
	19	42	75	43	70	45	63	46	81
	20	45	00	46	00	48	00	49	20
	21	46	25	48	30	50	42	51	74
	22	49	50	50	60	52	84	54	20
	23	51	75	52	90	55	24	56	67
	24	54	00	55	20	57	64	59	03
	25	56	25	57	50	60	04	61	60
	26	58	50	59	80	62	44	64	06
	27	60	75	62	10	64	85	66	52
	28	63	00	64	40	67	25	68	98
	29	65	25	66	70	69	65	71	44
	30	67	50	69	00	72	00	73	90

Circum	*8 Inch.*		*9 Inch.*		*10 Inch.*		*11 Inch.*	
5 Foot.	*Square*		*Square*		*Square*		*Square*	
	In.	*P.*	*In.*	*P.*	*In.*	*P.*	*In.*	*P.*
	19	18	19	46	19	75	20	02
F. P.	F.	P.	F.	P.	F.	P.	F.	P.
01	02	56	02	62	02	68	02	78
02	05	12	05	24	05	37	05	57
03	07	68	07	87	08	06	08	36
04	10	24	10	49	10	75	11	15
05	12	80	13	12	13	44	13	74
06	13	36	15	74	16	13	16	52
07	17	92	18	3	18	82	19	31
08	20	48	20	99	21	51	22	13
09	23	04	23	6	24	20	24	92
10	25	60	26	2	26	80	27	78
11	28	16	28	8	29	57	30	56
12	30	72	31	4	32	26	33	35
13	33	28	34	1	34	95	36	14
14	35	84	36	73	37	64	38	93
15	38	40	39	3	40	33	41	72
16	40	96	41	99	43	02	44	50
17	43	52	44	6	45	71	47	29
18	46	08	47	2	48	40	50	08
19	48	64	49	85	51	09	52	87
20	51	20	52	40	53	70	55	60
21	53	76	55	10	56	46	58	54
22	56	30	57	72	59	15	61	33
23	58	88	60	35	61	84	64	12
24	61	44	62	97	64	53	66	91
25	64	00	65	60	67	22	69	70
26	66	56	68	22	69	9	72	84
27	69	12	70	84	72	60	75	27
28	71	68	73	47	75	29	78	06
29	74	24	76	09	77	98	80	85
30	76	80	78	60	80	60	83	40

Length in Feet.

Circum	0 0 0		1 *Inch.*		2 *Inch.*		3 *Inch.*	
6 *Foot.*	*Square*		*Square*		*Square*		*Square.*	
	In.	*Pts.*	*In.*	*P.*	*In.*	*P*	*In.*	*P.*
	20	32	20	60	20	87	21	15
Length	F.	P.	F.	P.	F.	P.	F.	P.
01	02	85	02	95	03	02	03	09
02	05	71	05	91	06	05	06	19
03	08	56	08	87	09	08	09	29
04	11	42	11	83	12	10	12	38
05	14	28	14	79	15	13	15	48
06	17	13	17	74	18	16	18	58
07	19	99	20	70	21	18	21	67
08	22	84	23	66	24	21	24	77
09	25	70	26	62	27	24	27	87
10	28	50	29	50	30	20	30	90
11	31	41	32	53	33	29	34	06
12	34	27	35	49	36	31	37	16
13	37	12	38	45	39	34	40	26
14	39	98	41	41	42	36	43	35
15	42	84	44	37	45	39	46	45
16	45	69	47	32	48	42	49	55
17	48	55	50	28	51	44	52	64
18	51	40	53	24	54	47	55	74
19	54	25	56	20	57	50	58	84
20	57	00	59	10	60	54	61	80
21	59	97	62	11	63	56	65	03
22	62	83	65	07	66	59	68	13
23	65	68	68	03	69	62	71	23
24	68	54	70	99	72	64	74	32
25	71	40	73	95	75	67	77	42
26	74	25	76	90	78	70	80	52
27	77	11	79	86	81	72	83	61
28	79	96	82	82	84	75	86	71
29	82	82	85	78	87	78	89	81
30	85	60	88	70	90	81	92	70

Length in Feet.

Circum	*4 Inch.*		*5 Inch.*		*6 Inch.*		*7 Inch.*	
	Square		*Square*		*Square*		*Square*	
6 Foot.	*In.*	*P.*	*In.*	*P.*	*In.*	*P.*	*In.*	*P.*
	21	44	21	72	22	00	22	29
Length	F.	P.	F.	P.	F.	P.	F.	P.
01	03	16	03	27	03	34	03	45
02	06	33	06	45	06	69	05	91
03	09	50	09	72	10	04	10	37
04	12	67	13	00	13	39	13	83
05	15	84	16	26	16	74	17	29
06	19	00	19	55	20	08	20	75
07	22	17	22	83	23	43	24	21
08	25	35	26	10	26	78	27	67
09	28	51	29	38	30	13	31	13
10	31	60	32	70	33	40	34	50
11	34	84	36	03	36	82	38	04
12	38	01	39	31	40	17	41	50
13	41	18	42	58	43	52	44	96
14	44	35	45	86	46	87	48	42
15	47	54	49	14	50	22	51	88
16	50	70	52	41	53	56	55	34
17	53	87	55	69	56	93	58	80
18	57	03	58	96	60	28	62	26
19	60	20	62	24	63	63	65	72
20	63	20	65	40	66	80	69	00
21	66	52	68	79	70	30	72	63
22	69	69	72	07	73	65	76	09
23	72	86	75	34	77	00	79	55
24	76	08	73	62	80	35	83	01
25	79	20	81	90	83	70	86	47
26	82	36	85	17	87	04	89	93
27	85	53	88	45	90	39	93	39
28	88	70	91	72	93	74	96	85
29	91	87	95	00	97	09	100	31
30	95	00	98	10	100	20	103	50

Length in Feet.

Circum	*8 Inch.*		*9 Inch.*		*10 Inc.*		*11 Inc.*	
	Square		*Square*		*Square*		*Square*	
6 Foot.	*In.*	*P.*	*In.*	*P.*	*Iu.*	*P*	*In.*	*P.*
	22	56	22	86	23	12	23	42
Length	F.	P.	F.	P.	F.	P.	F.	P.
01	03	53	03	61	03	68	03	88
02	07	06	07	22	07	37	07	60
03	10	60	10	83	11	05	11	40
04	14	13	14	44	14	74	15	20
05	17	67	18	05	18	43	19	01
06	21	20	21	66	22	11	22	81
07	24	73	25	27	25	80	26	61
08	28	27	28	88	29	48	30	41
09	31	80	32	49	33	17	34	21
10	35	30	36	10	36	80	38	00
11	38	87	39	71	40	54	41	82
12	42	40	43	32	44	23	45	62
13	45	94	46	93	47	91	49	42
14	49	47	50	54	51	60	53	22
15	53	01	54	15	55	29	57	03
16	56	54	57	76	58	97	60	83
17	60	07	61	37	62	65	64	63
18	63	61	64	98	66	34	68	43
19	67	14	68	59	70	03	72	23
20	70	60	72	20	73	70	76	00
21	74	21	75	81	77	40	79	84
22	77	74	79	42	81	09	83	64
23	81	21	83	03	84	77	87	44
24	84	81	86	64	88	46	91	24
25	88	35	90	25	92	15	95	05
26	91	88	93	86	95	83	98	85
27	95	41	97	47	99	52	102	65
28	98	95	101	08	103	20	106	45
29	102	48	104	69	106	89	110	25
30	106	00	108	30	110	50	114	00

Length in Feet.

Leugth in Feet.

Circum	*0 0 0*		*1 Inch*		*2 Inch.*		*3 Inch.*	
	Square		*Square*		*Square*		*Square*	
7 *Foot:*	*In.*	*P.*	*In.*	*P.*	*In.*	*P.*	*In.*	*P.*
	23	69	23	98	24	32	24	54
Length	F.	P.	F.	P.	F.	P.	F.	P.
01	03	88	03	96	04	08	04	16
02	07	76	07	92	08	16	08	32
03	11	64	11	88	12	24	12	48
04	15	52	15	84	16	32	16	64
05	19	40	19	80	20	40	20	80
06	23	28	23	76	24	84	24	96
07	27	16	27	72	28	56	39	12
08	31	04	31	78	32	64	33	28
09	34	92	35	74	36	72	37	34
10	38	80	39	60	40	80	41	60
11	42	68	43	56	44	84	45	77
12	46	56	47	52	48	96	49	93
13	50	44	51	48	53	04	54	09
14	54	32	55	44	57	12	58	25
15	58	20	59	40	61	20	62	41
16	62	08	63	36	65	28	66	57
17	65	95	67	32	69	36	70	73
18	69	84	71	24	73	44	74	89
19	73	72	75	20	77	52	79	05
20	77	60	79	20	81	60	83	20
21	81	48	83	16	85	68	87	38
22	85	36	87	12	89	76	91	54
23	89	24	91	08	93	84	95	70
24	93	12	95	04	97	92	99	86
25	97	00	99	00	102	00	104	12
26	100	88	102	96	106	08	108	18
27	104	76	106	92	110	16	112	34
28	103	62	110	88	114	24	116	50
25	112	52	114	84	128	32	120	66
30	116	40	113	80	122	40	124	80

Length in Feet.

Circum.	4 *Inch.*		5 *Inch.*		6 *Inch.*		7 *Inch.*	
	Square		*Square*		*Square*		*Square*	
7 *Foot.*	*In.*	*P.*	*In.*	*P.*	*In.*	*P.*	*In.*	*P.*
	24	93	25	11	25	38	25	07
Leng.	F.	P.	F.	P.	F.	P.	F.	P.
01	04	32	04	36	04	49	04	57
02	08	65	08	78	08	98	09	15
03	12	97	13	10	13	48	13	73
04	17	30	17	47	17	97	18	31
05	21	63	21	84	22	47	22	89
06	25	95	26	20	20	96	27	46
07	30	38	30	57	31	45	32	04
08	34	70	34	94	35	93	36	62
08	39	03	39	31	40	43	41	20
10	43	20	43	60	44	90	45	70
11	47	58	48	04	49	43	50	36
12	51	91	52	41	53	92	54	94
13	56	23	56	78	58	42	59	52
14	60	56	61	15	62	91	64	10
15	64	89	65	52	67	41	68	68
16	69	21	69	88	71	90	73	26
17	73	54	74	25	76	39	77	84
18	77	86	78	62	80	89	82	42
19	82	19	82	99	85	38	87	00
20	86	40	87	20	89	80	91	50
21	90	84	91	72	94	37	96	15
22	95	17	96	09	98	86	101	73
23	99	49	100	46	103	36	105	31
24	103	82	104	83	107	85	109	89
25	108	15	109	20	112	35	114	47
26	112	47	113	56	116	84	119	05
27	116	80	117	96	121	33	123	63
28	121	12	122	30	125	83	128	21
29	125	45	126	67	130	32	132	79
30	128	60	130	80	134	70	137	10

Length in Feet.

Circum.	8 *Inch.*		9 *Inch.*		10 *Inch.*		11 *Inch.*	
	Square		*Square*		*Square*		*Square*	
7 *Foot.*	*In.*	*P.*	*In.*	*P.*	*In.*	*P.*	*In.*	*P.*
	25	96	26	52	26	52	26	80
Leng.	F.	P.	F.	P.	F.	P.	F.	P.
01	04	66	04	75	04	88	04	97
02	09	33	09	50	09	76	09	94
03	13	99	14	25	14	65	14	91
04	18	66	19	00	19	53	19	88
05	23	32	23	76	24	42	24	86
06	27	99	28	56	29	30	29	83
07	32	65	33	26	34	18	34	80
08	73	32	38	01	39	07	39	77
09	41	98	42	76	43	95	44	74
10	46	60	47	50	48	80	49	70
11	51	31	52	27	53	72	54	69
12	55	98	57	02	58	60	59	66
13	60	64	61	77	63	49	64	63
14	65	31	66	52	68	37	69	60
15	69	97	71	28	73	26	74	58
16	74	64	76	03	78	14	79	55
17	79	30	80	78	82	71	84	52
18	83	97	85	53	87	59	89	49
19	88	63	90	38	92	48	94	46
20	93	20	95	00	97	70	99	40
21	97	96	99	79	102	00	104	41
12	102	63	104	54	107	44	109	38
23	107	29	109	29	112	33	114	35
24	111	96	114	04	117	21	119	32
25	116	62	118	80	122	10	124	30
26	121	29	123	55	126	98	129	27
27	125	95	128	30	131	86	134	24
28	130	62	132	05	136	75	139	21
29	135	28	137	80	141	63	144	18
30	139	80	142	50	146	40	149	26

Length in Feet.

Circum.	0 0 0		1 *Inch.*		2 *Inch.*		3 *Inch*	
8 *Foot.*	*Square* *In.*	P.	*Square* *In.*	*P.*	*Square* *In.*	P.	*Square* *In.*	*P.*
	27	07	27	36	27	65	27	93
Leng.	F.	F.	F.	P.	F.	P.	F.	P
01	05	06	05	15	05	25	05	38
02	10	12	10	30	10	58	10	76
03	15	18	15	45	15	87	16	14
04	20	24	20	60	21	16	21	52
05	25	31	25	76	26	45	26	91
06	30	37	30	91	31	74	32	29
07	35	43	36	06	37	03	37	67
08	40	49	41	21	42	32	43	05
09	45	55	46	36	47	61	48	43
10	50	60	51	50	52	90	53	80
11	55	68	56	67	57	19	59	20
12	60	74	61	82	63	28	64	54
13	65	80	66	97	68	57	69	96
14	70	86	72	12	73	83	75	38
15	75	93	77	28	79	15	80	73
16	80	99	82	43	84	44	86	11
17	86	05	87	58	89	73	91	49
18	91	11	92	73	95	02	96	87
19	96	17	97	88	100	31	102	25
20	101	20	103	00	105	80	107	60
21	106	30	108	19	111	09	113	02
22	111	36	113	34	116	38	118	3
23	116	42	118	49	121	67	123	78
24	121	48	123	64	126	96	129	16
25	126	54	128	80	132	25	134	55
26	131	60	133	95	137	54	139	93
27	136	66	139	10	142	83	145	31
28	141	72	144	25	148	12	150	69
29	146	78	149	41	153	41	156	07
30	151	80	154	50	158	70	161	40

Length in Feet.

Circum.	4 *Inch.*		5 *Inch.*		6 *Inch.*		.*Inch*	
	Square		*Square*		*Square*		*Square*	
8 *Foot.*	*In.*	*P.*	*In.*	*P.*	*In.*	*P.*	*In.*	*P.*
	28	21	28	49	28	74	29	06
Leng.	F.	P.	F.	P.	F.	P.	F.	P.
01	05	52	05	61	05	76	05	85
02	11	04	11	23	11	52	11	71
03	16	56	16	84	17	28	17	56
04	22	08	22	46	23	04	23	42
05	27	61	28	08	28	80	29	28
06	33	13	33	69	34	56	34	83
07	38	65	39	31	40	32	40	69
08	44	17	44	92	46	08	46	54
09	49	69	50	54	51	84	52	40
10	55	20	56	10	57	70	58	50
11	60	74	61	71	63	46	64	41
12	66	26	67	39	69	22	70	27
13	71	78	73	00	74	98	76	12
14	77	30	78	62	80	74	81	98
15	82	83	84	24	86	50	87	84
16	88	35	89	85	92	26	93	69
17	92	87	95	47	68	02	99	55
18	99	39	101	08	103	78	105	40
19	104	91	106	70	109	54	111	26
20	110	40	112	30	115	10	117	10
21	115	96	117	93	120	96	122	97
22	121	48	123	55	126	72	128	83
23	127	00	129	16	132	48	134	68
24	132	52	134	78	138	24	140	54
25	138	05	140	40	144	00	146	40
26	143	57	146	01	149	76	152	25
27	149	09	151	63	155	52	158	11
28	154	61	157	24	160	28	163	96
29	160	13	162	86	166	04	169	82
30	165	60	168	40	172	80	175	60

Length in Feet.

Circum.	8 *Inch.*		9 *Inch.*		10 *Inch.*		11 *Inch.*	
	Square		*Square*		*Square*		*Square*	
8 *Foot.*	*In.*	*P.*	*In.*	*P.*	*In.*	*P.*	*In.*	*P.*
	29	34	29	62	29	90	30	18
Leng.	F.	P.	F.	P.	F.	P.	F.	P.
01	05	95	06	05	06	19	06	30
02	11	90	12	10	12	39	12	60
03	17	85	18	15	18	59	18	90
04	23	81	24	20	24	79	25	20
05	29	76	30	25	30	99	31	50
06	35	71	36	30	37	18	37	80
07	41	67	42	36	43	38	44	10
08	47	62	48	41	49	58	50	40
08	53	57	54	46	55	78	56	70
10	59	50	60	50	61	98	63	00
11	65	48	66	56	68	17	69	30
12	71	43	72	61	74	37	75	60
13	77	38	78	67	80	57	81	90
14	83	34	84	72	86	77	88	20
15	89	29	90	77	92	97	94	50
16	95	24	96	82	99	16	100	80
17	101	20	102	87	105	36	107	10
18	107	15	108	92	111	56	113	40
19	113	10	114	98	117	76	119	70
20	119	00	121	00	123	96	126	00
21	125	01	127	08	130	15	132	30
22	130	96	133	13	136	35	138	60
23	136	91	139	18	142	55	144	90
24	142	87	145	23	148	75	151	20
25	148	82	151	29	154	95	157	50
26	154	77	157	34	161	14	163	80
27	160	72	163	39	167	34	170	10
28	166	67	169	44	173	54	176	40
29	172	62	175	49	189	74	182	70
30	178	50	181	50	185	96	189	00

	Circum.	0 0 0		1 Inch.		2 Inch.		3 Inch.	
	9 Foot.	Square In.	P.	Square In.	P.	Square In.	P.	Square In.	P
		30	47	30	75	31	03	31	31
	Lèng.	F.	P.	F.	P.	F.	P.	F.	P.
Length in Feet.	01	06	40	06	55	06	65	06	81
	02	12	80	13	10	13	31	13	62
	03	19	20	19	65	19	96	20	43
	04	25	60	26	20	26	62	27	24
	05	32	00	33	75	33	28	34	06
	06	38	40	39	30	39	93	40	87
	07	44	80	45	85	46	59	47	68
	08	51	20	52	40	53	24	54	49
	09	57	60	58	95	59	90	61	30
	10	64	00	65	50	66	50	68	10
	11	70	41	72	05	73	21	74	93
	12	76	81	78	60	79	97	81	74
	13	83	21	85	15	86	62	88	55
	14	89	61	91	70	93	28	95	36
	15	96	01	98	25	99	94	102	18
	16	102	41	104	80	106	59	108	99
	17	108	81	111	35	113	25	115	80
	18	115	21	117	90	119	90	122	61
	19	121	61	124	45	125	56	129	42
	20	128	00	131	10	133	00	136	20
	21	134	42	137	65	139	77	143	05
	12	140	82	144	20	146	43	149	86
	23	147	22	150	75	153	08	156	67
	24	153	62	157	30	159	74	163	48
	25	160	02	163	85	166	40	170	30
	26	166	42	170	40	173	05	177	11
	27	172	82	176	95	179	71	183	92
	28	179	22	183	50	186	36	190	73
	29	185	62	190	05	193	02	197	54
	30	192	00	196	50	199	60	204	30

	Cicum	4 Inch.		5 Inch.		6 Inch.		7 Inch.	
		Square		Square		Square		Square	
	9 Foot.	In.	P.	In.	P.	In.	P.	In.	P.
		31	60	31	87	32	16	32	44
	Leng.	F.	P.	F.	P.	F.	P.	F.	P.
Length in Feet.	01	06	91	07	02	07	10	07	29
	02	13	83	14	04	14	21	14	58
	03	20	74	21	06	21	32	21	87
	04	27	66	28	08	28	43	29	16
	05	34	58	35	11	35	54	36	45
	06	41	49	42	13	42	64	43	74
	07	48	41	49	15	49	75	51	93
	08	55	32	56	17	56	86	58	32
	09	62	24	63	19	63	97	65	61
	10	69	10	70	20	71	00	72	90
	11	76	07	77	24	78	18	80	19
	12	82	99	84	26	85	29	87	38
	13	89	90	91	28	92	40	94	67
	14	96	82	98	30	99	51	101	96
	15	103	74	105	33	106	62	109	25
	16	110	65	112	35	113	72	116	54
	17	117	67	119	37	120	83	123	83
	18	124	58	126	39	127	94	131	12
	19	131	50	133	41	135	09	138	41
	20	138	30	140	40	142	10	145	80
	21	145	23	147	66	149	26	153	09
	22	152	15	154	68	156	37	160	38
	23	159	06	161	70	163	48	167	67
	24	165	98	168	72	170	59	174	96
	25	172	90	175	74	177	70	182	25
	26	179	81	182	76	184	80	189	54
	27	186	73	189	78	191	90	196	83
	28	193	64	196	80	199	02	204	12
	29	200	56	203	82	206	13	211	41
	30	207	40	210	84	213	00	218	70

Circum	*8 Inch.*		*9 Inch.*		*10 Inc.*		*11 Inc.*	
	Square		*Square.*		*Square*		*Square*	
9 Foot.	*In.*	*P.*	*In.*	*P.*	*In.*	*P.*	*In.*	*P.*
	32	71	32	99	33	27	33	55
Length	F.	P.	F.	P.	F.	P.	F.	P.
01	07	39	07	56	07	67	07	78
02	14	79	15	12	15	34	15	56
03	22	19	22	68	23	03	23	35
04	29	59	30	24	30	70	31	13
05	36	99	37	81	38	38	38	92
06	44	38	45	37	46	05	46	76
07	51	73	52	93	53	72	54	46
08	59	18	60	49	61	39	62	27
09	66	58	68	05	69	06	70	05
10	73	90	75	60	76	70	77	80
11	81	37	83	18	84	39	85	62
12	88	77	90	74	92	06	93	40
13	96	17	98	30	99	73	101	19
14	103	57	105	86	107	40	108	97
15	110	97	113	43	115	08	116	76
16	118	36	120	99	122	75	124	54
17	125	76	128	55	130	42	132	32
18	133	16	136	11	138	09	140	11
19	140	56	143	67	145	76	147	89
20	147	80	151	20	153	40	155	60
21	155	35	158	80	161	31	163	46
22	162	75	166	36	168	98	171	24
23	170	15	173	92	176	65	179	03
24	177	36	181	48	184	33	186	81
25	184	75	189	05	192	01	194	60
26	192	14	196	61	199	68	202	38
27	199	53	204	17	207	35	240	16
28	206	31	211	73	215	02	217	95
29	214	31	219	29	222	69	225	73
30	221	70	226	80	230	10	233	50

Length in Feet.

Length in Feet.

Circum	0 0 0		1 Inch.		2 Inch.		3 Inch.	
10 Foot.	Square In.	P.	Square In.	P.	Square In.	P.	Square In.	P.
	33	83	34	12	34	40	34	68
F. P.	F.	P.	F.	P	F.	P.	F.	P.
01	07	95	08	06	08	17	08	35
02	15	90	16	12	16	34	16	70
03	23	85	24	18	24	51	25	05
04	31	80	32	24	32	68	33	40
05	39	76	40	30	40	85	41	76
06	47	71	48	36	49	05	50	11
07	55	66	56	42	57	22	58	46
08	63	61	64	48	65	39	66	81
09	71	56	72	54	73	56	75	16
10	79	50	80	60	81	70	83	50
11	87	45	88	66	89	87	91	85
12	95	40	96	72	98	04	100	22
13	103	35	104	78	106	21	108	57
14	111	30	112	84	114	28	116	92
15	119	25	120	90	122	45	125	28
16	127	20	129	96	130	80	133	63
17	135	15	137	12	138	79	141	98
18	143	10	145	18	147	96	150	33
19	151	05	153	24	155	23	158	68
20	159	00	161	30	163	40	167	00
21	166	95	169	36	171	57	175	35
22	174	90	177	42	179	74	183	70
23	182	85	185	48	187	91	192	05
24	190	70	193	54	195	08	200	40
25	198	65	201	60	203	25	208	75
26	205	50	209	66	212	42	217	10
27	214	45	217	72	220	59	225	45
28	222	40	225	78	228	76	233	80
29	230	35	233	84	237	93	242	15
30	238	30	241	90	245	10	250	50

Length in Feet.

Circum	*4 Inch.*		*5 Inch.*		*6 Inch.*		*7 Inch*	
10 Foot.	*Square*		*Square*		*Square*		*Square*	
	In.	*P.*	*In.*	*P.*	*In.*	*P.*	*In.*	*P.*
	34	96	35	24	35	53	35	81
Length	F.	P.	F.	P.	F.	P.	F.	P.
01	08	46	08	58	08	76	08	88
02	16	93	17	16	17	52	17	76
03	25	40	25	75	26	28	26	64
04	33	87	34	33	35	04	35	52
05	42	34	42	92	43	80	44	40
06	50	80	51	50	52	56	53	28
07	59	27	60	08	61	32	62	16
08	67	74	68	66	70	08	71	04
09	76	21	77	24	78	84	79	92
10	84	60	85	80	87	60	88	86
11	93	06	94	38	95	36	97	68
12	101	52	103	00	104	12	106	56
13	110	00	111	58	112	88	115	44
14	118	44	120	16	121	64	124	32
15	127	90	128	74	130	40	133	20
16	135	36	137	32	139	16	142	08
17	143	82	145	90	148	92	150	96
18	152	28	154	48	157	68	159	84
19	150	74	163	09	166	44	168	72
20	169	20	171	60	175	20	177	60
21	178	66	180	18	183	96	186	48
22	186	12	188	76	192	72	195	36
23	094	52	197	34	201	48	204	24
24	203	98	205	92	210	24	213	12
25	211	44	214	50	219	00	221	90
26	220	90	223	08	227	76	230	78
27	228	36	231	66	236	52	239	66
28	237	82	240	24	245	28	248	56
29	245	28	248	82	254	04	257	42
30	253	80	257	40	262	80	266	40

	Circum.	8 Inch.		9 Inch.		10 Inch.		11 Inch.	
		Square		Square		Square		Square	
	10 Foot.	In.	P.	In.	P.	In.	P.	In.	P.
		36	09	36	37	36	65	36	94
	Leng.	F.	P.	F.	P.	F.	P.	F.	P.
Length in Feet.	01	09	06	09	18	09	30	09	42
	02	18	12	18	36	18	60	18	84
	03	27	18	27	54	27	90	28	26
	04	36	24	36	72	37	20	37	68
	05	45	30	45	90	46	50	47	00
	06	54	36	55	08	55	80	56	42
	07	63	42	63	26	65	10	65	84
	08	72	48	73	44	74	40	75	26
	09	81	54	82	62	83	70	84	68
	10	90	60	91	80	93	00	94	20
	11	99	66	100	98	102	30	103	62
	12	108	72	110	06	111	60	113	04
	13	117	78	119	24	120	90	122	46
	14	126	84	128	42	130	20	131	88
	15	135	90	137	60	139	50	141	20
	16	144	96	146	78	148	80	150	62
	17	154	02	155	96	158	10	160	04
	18	163	08	165	04	167	40	169	46
	19	172	14	174	22	176	70	179	88
	20	181	20	183	60	186	00	188	40
	21	190	26	192	78	195	30	197	82
	22	199	32	201	96	204	60	207	24
	23	208	38	211	14	213	90	216	66
	24	217	44	220	32	223	20	226	08
	25	226	50	229	50	232	50	235	50
	26	235	56	238	68	241	80	245	92
	27	244	62	247	86	251	10	254	34
	28	253	68	257	04	260	40	263	78
	29	262	74	266	22	269	70	273	10
	30	271	80	275	40	279	00	282	16

	Circum.	0 0 0		1 Inch.		2 Inch.		3 Inch.	
		Square		Square		Square		Square	
	11 Foot.	In.	P.	In.	P.	In.	P.	In.	P.
		37	22	37	50	37	78	38	06
	Leng.	F.	P.	F.	P.	F.	P.	F.	P.
Length in Feet.	01	09	61	09	73	09	92	10	04
	02	19	22	19	46	19	84	20	08
	03	28	83	29	19	29	76	30	12
	04	38	44	38	92	39	68	40	16
	05	48	05	48	65	49	60	50	20
	06	57	66	58	39	59	52	60	24
	07	67	27	68	12	69	44	70	24
	08	76	88	77	84	79	36	80	32
	09	86	49	87	57	89	28	90	36
	10	96	10	97	30	99	20	100	40
	11	105	71	107	03	109	12	110	44
	12	115	32	116	76	119	04	120	48
	13	124	93	126	49	128	96	130	52
	14	134	58	136	22	138	88	140	56
	15	144	15	145	95	148	80	150	60
	16	153	76	155	68	158	72	160	64
	17	163	37	165	41	168	64	170	68
	18	172	98	175	14	178	56	180	72
	19	182	59	184	87	188	48	190	76
	20	192	20	194	50	198	40	200	80
	21	201	81	204	33	208	32	211	84
	22	211	42	214	06	218	24	221	88
	23	221	03	223	79	228	16	231	92
	24	230	64	233	52	238	08	241	96
	25	240	25	243	25	248	98	250	00
	26	249	86	253	98	257	90	261	04
	27	259	47	262	71	267	82	271	08
	28	269	08	272	43	277	74	281	12
	29	278	69	282	16	287	66	291	16
	30	288	30	291	90	297	60	301	20

Length in Feet.

Circum.	*4 Inch.*		*5 Inch.*		*6 Inch.*		*7 Inch.*	
	Square		*Square*		*Square*		*Square*	
11 *Foot.*	*In.*	*P.*	*In.*	*P.*	*In.*	*P.*	*In.*	*P.*
	38	35	38	63	38	91	39	19
Leng.	F.	P.	F.	P.	F.	P.	F.	P.
01	10	17	10	36	10	49	10	62
02	20	34	20	72	20	98	21	24
03	30	51	31	08	31	47	31	86
04	40	68	41	14	41	96	42	48
05	50	85	51	50	52	45	53	10
06	61	02	62	86	62	94	63	72
07	71	19	72	22	73	43	74	34
08	81	36	82	58	83	92	85	96
09	91	53	93	93	94	41	95	58
10	101	70	103	30	104	90	106	20
11	111	87	114	66	115	39	116	80
12	122	04	124	02	125	88	127	42
13	132	21	134	38	136	37	138	04
14	142	38	145	74	146	86	148	66
15	152	55	155	10	157	35	159	28
16	162	72	165	46	167	84	170	90
17	172	89	176	82	178	33	180	52
18	183	06	186	18	188	82	191	14
19	163	23	197	54	199	31	201	76
20	203	40	207	20	209	80	212	40
21	213	57	217	56	220	22	223	02
22	223	74	228	92	230	78	233	64
23	234	91	238	28	241	27	244	26
24	244	08	248	64	251	76	255	88
25	254	25	258	00	262	22	265	50
26	264	32	269	36	272	74	276	12
27	274	49	279	72	283	23	286	74
28	284	66	290	08	293	72	297	36
29	295	83	300	44	304	21	308	98
30	305	00	310	80	314	70	318	60

	Circum.	8 *Inch.*		9 *Inch.*		10 *Inch.*		11 *Inch.*	
		Square		*Square*		*Square*		*Square*	
	11 *Foot.*	*In.*	*P.*	*In.*	*P.*	*In.*	*P.*	*In.*	*P.*
		39	47	39	76	40	04	40	32
	Leng.	F.	P.	F.	P.	F.	P.	F.	P.
Length in Feet.	01	10	82	10	95	11	07	11	28
	02	21	64	21	90	22	14	22	56
	03	32	85	32	46	33	21	33	84
	04	43	28	43	80	44	28	45	12
	05	54	00	54	75	55	35	56	40
	06	64	82	65	70	66	42	67	68
	07	75	64	76	65	77	49	78	96
	08	86	46	87	60	88	56	90	24
	09	97	28	98	55	99	63	101	52
	10	108	20	109	50	110	70	112	80
	11	119	02	120	40	110	77	124	08
	12	129	84	131	40	132	84	135	36
	13	140	66	142	35	143	91	146	44
	14	151	48	153	30	154	98	158	82
	15	162	30	164	25	166	05	169	10
	16	173	12	175	20	177	12	180	38
	17	184	94	186	15	188	19	191	56
	18	194	76	197	10	199	26	203	04
	19	205	58	208	05	210	33	214	32
	20	216	40	219	00	221	40	225	60
	21	227	22	229	95	232	47	237	88
	22	238	04	240	50	243	54	248	16
	23	248	86	251	85	254	61	259	44
	24	259	58	262	80	265	68	270	72
	25	270	40	273	75	276	75	281	00
	26	281	22	284	70	288	82	292	28
	27	292	04	295	65	299	89	303	56
	28	303	86	309	60	310	96	315	84
	29	313	18	317	55	321	03	327	12
	30	224	96	328	50	332	10	238	40

Length in Feet.

Circum.	000	
12 *Foot.*	*Square In.*	*P.*
	40	60
Leng.	F.	P.
01	11	42
02	22	84
03	34	26
04	45	68
05	57	10
06	68	52
07	79	94
08	91	36
09	102	78
10	114	20
11	125	62
12	137	04
13	148	46
14	159	88
15	171	20
16	182	62
17	194	04
18	205	46
19	217	88
20	228	40
21	239	82
22	251	24
23	262	66
24	274	08
25	285	50
26	296	92
27	308	34
28	319	76
29	331	18
30	342	60

The Uſe of the following Table of Meaſuring Cord-Wood, by which you may find the Content of any Pile of Cord-Wood.

A Cord of Wood is 4 Foot broad, 4 Foot high, and 8 Foot in length, ſo that every Cord of Wood contains 128 Solid Feet, as in this Example.

$$\begin{array}{r} 4 \\ 4 \\ \hline 16 \\ 8 \\ \hline 128 \end{array} \quad \textit{Feet.}$$

To find the Content of any Pile of Cord-Wood, Multiply the breadth by the heighth, and the Product by the length, gives the Solid Content in Feet; the laſt Product divide by 128, ſhews how many Cord is contained in that Pile of Wood.

There's a Pile of Wood, in breadth 12 Foot, in heighth 12 Foot, and in length 16 Foot; How many Cord is in it?

12
12

144
16

864
144

128) 2304 (18 *Cord.*
128

1024
1024

(0)

There's contain'd in this Pile of Wood 18 Cord.

The Parts of Cord-Wood.

Half a quarter is	16	*Feet.*
A quarter - - -	32	
Half ————	64	
Three quarter - -	96	

In every Cord of 3 Foot Wood, is 3 quarters of a Cord of 4 Foot, ſo that in every Cord of Yard-Wood, contains 96 Feet.

Example.

In heighth 4
In breadth 3

12
Length 8

96 *Feet.*

There's a Pile of Yard Wood, in heighth 16, in breadth 6 and in length 12 Feet; How many Cord?

16
6

96
12

192
96

128) 1152 (9 *Cord.*
1152

(0)

There's a Pile of Wood is 4 Foot broad, 4 Foot high, and 22 Foot in length; How many Cord is in it?

Firſt find how many Solid Feet is contained in it. 2dly, Find that number in the Table, and againſt it you have the Cords and Parts.

Ex-

Example.

4
4

16
22

32
32

Solid Feet - - 352

Againſt 352 in the Table you'll find 2 Cords and 3 Quarters.

Example the Second.

There's a Pile of Cord-Wood, in length 42 Foot, in heighth 8 Foot, and in breadth 8 Foot; How many Cord?

$$\begin{array}{r} 42 \\ 8 \\ \hline 336 \\ 8 \\ \hline \end{array}$$

Solid Feet - 2688

Find 2688 in the Table, and againſt it you'll find 21 Cord, and ſo many Cord is contain'd in that Pile of Wood.

Solid Feet.	*Cords.*	*Quar.*	*Feet.*	*Solid Feet.*	*Cords.*	*Quar.*	*Feet.*
00128	01	00	00	00640	05	00	00
00144	01	00	16	00656	05	00	16
00160	01	01	00	00672	05	01	00
00176	01	01	16	60688	05	01	16
00192	01	02	00	00704	05	02	00
00208	01	02	16	00720	05	02	16
00224	01	03	00	00736	05	03	00
00240	01	03	16	00752	05	03	16
00256	02	00	00	00768	06	00	00
00272	02	00	16	00784	06	00	16
09288	02	01	00	00800	06	01	00
00304	02	01	16	00816	06	01	16
00320	02	02	00	00832	06	02	00
00336	02	02	16	00848	06	02	16
00352	02	03	00	00864	06	03	00
00368	02	03	16	00880	06	03	16
00384	03	00	00	00896	07	00	00
00400	03	00	16	00912	07	00	16
00416	03	01	00	00928	07	01	00
00432	03	01	16	00944	07	01	16
00448	03	02	00	00960	07	02	00
00464	03	02	16	00976	07	02	16
00480	03	03	00	00992	07	03	00
00496	03	03	16	1008	07	03	16
00512	04	00	00	1024	08	00	00
00528	04	00	16	1046	08	00	16
00544	04	01	00	1056	08	01	00
00560	04	01	16	1072	08	01	16
00576	04	02	00	1088	08	02	00
00592	04	02	16	1104	08	02	16
00608	04	03	00	1120	08	03	00
00624	04	03	16	1136	08	03	16

Solid Feet.	Cords.	Quar.	Feet.	Solid Feet.	Cords.	Quar.	Feet.
1152	09	00	00	1664	13	00	00
1168	09	00	16	1680	13	00	16
1184	09	01	00	1696	13	01	00
1200	09	01	16	1712	13	01	16
1216	09	02	00	1728	13	02	00
1232	09	02	16	1744	13	02	16
1248	09	03	00	1760	13	03	00
1264	09	03	16	1776	13	03	16
1289	10	00	00	1792	14	00	00
1296	10	00	16	1808	14	00	16
1312	10	01	00	1824	14	01	00
1328	10	01	16	1840	14	01	16
1344	10	02	00	1856	14	02	00
1360	10	02	16	1872	14	02	16
1376	10	03	00	1888	14	03	00
1392	10	03	16	1904	14	03	16
1408	11	00	00	1920	15	00	00
1424	11	00	16	1936	15	00	16
1440	11	01	00	1952	15	01	00
1456	11	01	16	1968	15	01	16
1472	11	02	00	1984	15	02	00
1488	11	02	16	2000	15	02	16
1504	11	03	00	2016	15	03	00
1520	11	03	16	2032	15	03	16
1536	12	00	00	2048	16	00	00
1552	12	00	16	2064	16	00	16
1568	12	01	00	2080	16	01	00
1584	12	01	16	2096	16	01	16
1600	12	02	00	2112	16	02	00
1616	12	02	16	2128	16	02	16
1632	12	03	00	2144	16	03	00
1648	12	03	16	2160	16	03	16

Solid Feet.	*Cords.*	*Quar.*	*Feet.*	*Solid Feet.*	*Cords.*	*Quar.*	*Feet.*
2176	17	0	0	2688	21	00	00
2192	17	00	16	2704	21	00	16
2208	17	01	00	2720	21	01	00
2224	17	01	16	2736	21	01	16
2240	17	02	00	2752	21	02	00
2256	17	02	16	2768	21	02	16
2272	17	03	00	2784	21	03	00
2288	17	03	16	2800	21	03	16
2304	18	00	00	2816	22	00	00
2320	18	00	16	2832	22	00	16
2336	18	01	00	2848	22	01	00
2352	18	01	16	2864	22	01	16
2368	18	02	00	2880	22	02	00
2384	18	02	16	2896	22	02	16
2400	18	03	00	2812	22	03	00
2416	18	03	16	2928	22	03	16
[illegible]432	19	00	00	2944	23	00	00
[illegible]448	19	00	16	2960	23	00	16
[illegible]464	19	01	00	2976	23	01	00
2480	19	01	16	2992	23	01	16
2496	19	02	00	3008	23	02	00
2512	19	02	16	3024	23	02	16
2528	19	03	00	3040	23	03	00
2544	19	03	16	3056	23	03	16
2560	20	00	00	3072	24	00	00
2576	20	00	16	3088	24	00	16
2592	20	01	00	3104	24	01	00
2608	20	01	16	3120	24	01	16
2624	20	02	00	3136	24	02	00
2640	20	02	16	3152	24	02	16
2656	20	03	00	3168	24	03	00
2672	20	03	16	3184	24	03	16

Solid Feet.	Cords.	Quar.	Feet.	Solid Feet.	Cords.	Quar.	Feet.
3200	25	00	00	3712	29	0	0
2216	25	00	16	3728	29	00	16
3232	25	01	00	3744	29	01	00
3248	25	01	16	3760	29	01	16
3264	25	02	00	3776	29	02	00
3280	25	02	16	3792	29	02	16
3296	25	03	00	3808	29	03	00
3312	25	03	16	3824	29	03	16
3328	26	00	00	3840	30	00	00
3344	26	00	16	3856	30	00	16
3360	26	01	00	3872	30	01	00
3376	26	01	16	3888	30	01	16
3392	26	02	00	3904	30	02	00
3408	26	02	16	3920	30	02	16
3424	26	03	00	3936	30	03	00
3440	26	03	16	3952	30	03	16
3356	27	00	00	3968	31	00	00
3472	27	00	16	3984	31	00	16
3488	27	01	00	4000	31	01	00
3504	27	01	16	4016	31	01	16
3520	27	02	00	4032	31	02	00
3536	27	02	16	4048	31	02	16
3252	27	03	00	4064	31	03	00
3568	27	03	16	4080	31	03	16
3584	28	00	00	4096	32	00	00
3600	28	00	16	4112	32	00	16
3616	28	01	00	4128	32	01	00
3632	28	01	16	4144	32	01	16
3648	28	02	00	4160	32	02	00
3664	28	02	16	4176	32	02	16
3680	28	03	00	4192	32	03	00
3696	28	03	16	4208	32	03	16

Solid Feet.	Cords.	Quar.	Feet.	Solid Feet.	Cords.	Quar.	Feet.
4224	33	00	00	4736	37	00	00
4240	33	00	16	4752	37	00	16
4256	33	01	00	4768	37	01	00
4272	33	01	16	4784	37	01	16
4288	33	02	00	4800	37	02	00
4304	33	02	16	4816	37	02	16
4320	33	03	00	4832	37	03	00
4336	33	03	16	4848	37	03	16
4352	34	00	00	4864	38	00	00
4368	34	00	16	4880	38	00	16
4384	34	01	00	4896	38	01	00
4400	34	01	16	4912	38	01	16
4416	34	02	00	3928	38	02	00
4432	34	02	16	4944	38	02	16
4448	34	03	00	4960	38	03	00
4464	34	03	16	4976	38	03	16
4480	35	00	00	4992	39	00	00
4496	35	00	16	5008	39	00	16
4512	35	01	00	5024	39	01	00
4528	35	01	16	5040	39	01	16
4544	35	02	00	5056	39	02	00
4560	35	02	16	5072	39	02	16
4576	35	03	00	5088	39	03	00
4592	35	03	16	5104	39	03	16
4608	36	00	00	5120	40	00	00
4624	36	00	16	5136	40	00	16
4640	36	01	00	5152	40	01	00
4656	36	01	16	5168	40	01	16
4672	36	02	00	5184	40	02	00
4688	36	02	16	5200	40	02	16
4704	36	03	00	5216	40	03	00
4720	36	03	16	5232	40	03	16

Solid Feet.	Cords.	Quar.	Feet.	Solid Feet.	Cords.	Quar.	Feet.
5248	41	00	00	5760	45	00	00
5264	41	00	16	5776	45	00	16
5280	41	01	00	5792	45	01	00
5296	41	01	16	5808	45	01	16
5312	41	02	00	5824	45	02	00
5328	41	02	16	5840	55	02	16
5344	41	03	00	5856	45	03	00
5360	41	03	16	5872	45	03	16
5376	42	00	00	5888	46	00	00
5392	42	00	16	5904	46	00	16
5408	42	01	00	5920	46	01	00
5424	42	01	16	5936	46	01	16
5440	42	02	00	5952	46	02	00
5456	42	02	16	5968	46	02	16
5472	42	03	00	5484	46	03	00
5488	43	03	16	6000	46	03	16
5504	43	00	00	6016	47	00	00
5520	43	00	16	6032	47	00	16
5536	43	01	00	6048	47	01	00
5552	43	01	16	6064	47	01	16
5568	43	02	00	6080	47	02	00
5584	43	02	16	6096	47	02	16
5600	43	03	00	6112	47	03	00
5616	43	03	16	6128	47	03	16
5632	44	00	00	6144	48	00	00
5648	44	00	16	6160	48	00	16
5664	44	01	00	6176	48	01	00
5680	44	01	16	6192	48	01	16
5696	44	02	00	6208	48	02	00
5712	44	02	16	6224	48	02	16
5728	44	03	00	6240	48	03	00
5744	44	03	16	6256	48	03	16

The following Table ſhews by inſpection, how many Square Superficial Feet, Yards, Squares and Parts, in any piece of Artificers Work, as Paving, Plaſtring, Wainſcoating, Flooring, *&c.* the length and breadth thereof being given in Feet.

The Explanation and Uſe of the Table.

It conſiſts of four Pages, and at the Head of each Page it begins with 3 Feet, 4 Feet, 5 Feet, *&c.* to 12 Feet broad.

Then on the ſide of each Page in the firſt Row or Column to the Left Hand, begins 1 Foot, 2 Foot, 3 Foot, *&c.* to a 112 Foot in length.

The reſt of the Columns over againſt the Feet, ſhews the Square Feet, Square Yards, and Squares of all Artificers Work.

Example.

There's a Walk or Cauſey Paved is 8 Foot broad, and 28 Foot in length.

How many Square Feet and Yards are contained in it?

Look for 8 Feet at the Head of the Table, and 28 Feet in the firſt Column, and againſt 28 you'll find 224 Feet, and 24 Yards and 8 Feet, ſo much as the Work contains.

Example the Second.

There's a Brick Wall in heighth 10 Foot, in length 105 Foot; How many Square Feet and Yards are contain'd in this Work?

Look for 10 Feet at the Head of the Table, and for 105 Feet in the firſt Column, and againſt 105 you'll find 1050 Feet, and 116 Yards, and 6 odd Feet.

There's a Gallery in length 44 Feet, and in breadth 8 Feet; How many Boards will Floor it? And how many Squares of Flooring is in it.

Look for 8 Feet at the Head of the Table, and for 44 Feet down the ſide of the firſt Column, againſt it you'll find 352, ſo many Boards will Floor it, and againſt it under Squares, you'll find 3.2.2. that is 3 Squares, 2 Quarters, and 2 odd Feet.

Note, Every Square contains 100 Feet, and commonly Carpenters take their Work by the Square, as in Roofs, Floors and Partitions.

There's a Room Wainſcoated, which is 20 Feet Square, in heighth 12 Foot; How many Feet and Yards of Wainſcoating is in it?

Look for 12 Feet at the Head of the Table, and for 80 Feet down the the firſt Column (which is the Circumference of the Room) and againſt it you'll find 960 Feet, and under Yards you'll find 106 Yards and 6 odd Feet.

Note, If either the length or the breadth of the thing meaſured be greater, then the numbers at the Head or ſide of the Table, then take half that number and double it, will give the Content, as in this Example.

There's a Room Plaſter'd, in heighth 16 Foot, the Circumference 112 Foot; How many Yards of Work? Look at the head of the Table for 8, which is half 16, and againſt 112 you'll find 99 Yards and 5 odd Feet, double it, it makes 199 Yards.

Feet

Feet in Length and Breadth.

3	Feet.	*Yards.*		*Squares*		
	Feet.	*Y.*	*F.*	*ſ.*	*q.*	*f.*
01	03		03	0	0	03
02	06		06	0	0	06
03	09	01	09	0	0	09
04	12	1	3	0	0	12
05	15	1	6	0	0	15
06	18	2	0	0	0	18
07	21	2	3	0	0	21
08	24	2	6	0	0	24
09	27	3	00	0	1	02
10	30	3	3	0	1	05
11	33	3	6	0	1	08
12	36	4	00	0	1	11
13	39	4	3	0	1	14
14	42	4	6	0	1	17
15	45	5	0	0	1	20
16	48	5	3	0	1	23
17	51	5	6	0	2	01
18	54	6	0	0	2	04
19	57	6	3	0	2	07
20	60	6	6	0	2	10
21	63	7	0	0	2	13
22	66	7	3	0	2	16
23	69	7	6	0	2	19
24	72	8	0	0	2	22
25	75	8	3	0	3	00
26	78	8	6	0	3	03
27	81	9	0	0	3	06
28	84	9	3	0	3	09

Feet in Length or Breadth.

3	*Feet.*	*Yards.*		*Squares*		
	Feet.	*Y.*	*F.*	*ſ.*	*q.*	*f.*
29	87	9	6	0	3	12
30	90	10	0	0	3	15
31	93	10	3	0	3	18
32	96	10	6	0	3	21
33	99	11	0	0	3	24
34	102	11	3	1	0	02
35	105	11	6	1	0	05
36	108	12	0	1	0	08
37	111	12	3	1	0	11
38	114	12	6	1	0	14
39	117	13	0	1	0	17
40	120	13	3	1	0	20
41	123	13	6	1	0	23
42	126	14	0	1	1	01
43	129	14	3	1	1	4
44	132	14	06	1	1	7
45	135	15	0	1	1	10
46	136	15	3	1	1	13
47	141	15	6	1	1	16
48	144	16	0	1	1	19
49	147	16	3	1	1	22
50	150	16	6	1	2	00
51	153	17	0	1	2	03
52	156	17	3	1	2	06
53	159	17	6	1	2	09
54	162	18	0	1	2	12
55	165	18	3	1	2	15
56	168	18	6	1	2	18

Feet in Length or Breadth.

3	*Feet.*	*Yards.*		*Squares*		
	Feet.	*Y.*	*F.*	*ſ.*	*q.*	*f.*
57	171	19	0	1	2	21
58	174	19	3	1	2	24
59	177	19	6	1	3	02
60	180	20	0	1	3	05
61	183	20	3	1	3	08
62	186	20	6	1	3	11
63	189	21	0	1	3	14
64	192	21	3	1	3	17
65	195	21	6	1	3	20
66	198	22	0	1	3	23
67	201	22	3	2	0	01
68	204	22	6	2	0	04
69	207	23	0	2	0	07
70	210	23	3	2	0	10
71	213	23	06	2	0	13
72	216	24	0	2	0	16
73	219	24	3	2	0	19
74	222	24	6	2	0	22
75	225	25	0	2	1	00
76	228	25	3	2	1	03
77	231	25	6	2	1	06
78	234	26	0	2	1	09
79	237	26	3	2	1	12
80	240	26	6	2	1	15
81	243	27	0	2	1	18
82	246	27	3	2	1	21
83	249	27	6	2	1	24
84	252	28	0	2	2	02

Feet in Length and Breadth.

3	*Feet.*	*Yards.*		*Squares*		
	Feet.	*Y.*	*F.*	*ſ.*	*q.*	*f.*
85	255	28	3	2	2	05
86	258	28	6	2	2	08
87	261	29	0	2	2	11
88	264	29	3	2	2	14
89	267	29	6	2	2	17
90	270	30	0	2	2	20
91	273	30	3	2	2	23
92	276	30	6	2	3	01
93	279	31	0	2	3	04
94	282	31	3	2	3	07
95	285	31	6	2	3	10
96	288	32	0	2	3	13
97	291	32	3	2	3	16
98	294	32	6	2	3	19
99	297	33	0	2	3	22
100	300	33	3	3	0	00
101	303	33	6	3	0	03
102	306	34	0	3	0	06
103	309	34	03	3	0	09
104	312	44	06	3	0	12
105	315	35	00	3	0	15
106	318	35	3	3	0	18
107	321	55	6	3	0	21
108	324	36	0	3	0	24
109	327	36	3	3	1	02
110	330	36	6	3	1	05
111	333	37	0	3	1	08
111	136	37	3	3	1	11

Feet in Length or Breadth.

4	*Feet.*	*Yards.*		*Squares*		
	Feet.	*Y.*	*F.*	*ſ.*	*q.*	*f.*
01	04	0	4	0	0	4
02	08	0	8	0	0	8
03	12	1	3	0	0	12
04	16	1	7	0	0	16
05	20	2	2	0	0	20
06	24	2	6	0	0	24
07	28	3	01	0	1	03
08	32	3	5	0	1	07
09	36	4	0	0	1	11
10	40	4	4	0	1	15
11	44	4	8	0	1	19
12	48	5	3	0	1	23
13	52	5	7	0	2	02
14	56	6	2	0	2	06
15	60	6	6	0	2	10
16	64	7	1	0	2	14
17	68	7	5	0	2	18
18	72	8	0	0	2	22
19	76	8	4	0	3	01
20	80	8	8	0	3	05
21	84	9	3	0	3	09
22	88	9	7	0	3	13
23	92	10	2	0	3	17
24	96	10	6	0	3	21
25	100	11	1	1	0	00
26	104	11	5	1	0	04
27	108	12	0	1	0	08
28	112	12	4	1	0	12

Feet in Length and Breadth.

4	*Feet.*	*Yards.*		*Squares*		
	Feet.	*Y.*	*F.*	*ſ.*	*q.*	*f.*
29	116	12	8	1	0	16
30	120	13	3	1	0	20
31	124	13	7	1	0	24
32	128	14	2	1	1	03
33	132	14	6	1	1	07
34	136	15	01	1	1	11
35	140	15	5	1	1	15
36	144	16	0	1	1	19
37	148	16	4	1	1	23
38	152	16	8	1	2	02
39	156	17	3	1	2	06
40	160	17	7	1	2	10
41	164	18	2	1	2	14
42	168	18	6	1	2	18
43	172	19	01	1	2	22
44	176	19	5	1	3	01
45	180	20	0	1	3	05
46	184	20	4	1	3	09
47	188	20	8	1	3	13
48	192	21	3	1	3	17
49	196	21	7	1	3	21
50	200	22	2	2	0	0
51	204	22	6	2	0	4
52	208	23	01	2	0	8
53	212	23	5	2	0	12
54	216	24	0	2	0	16
55	220	24	4	2	0	20
56	224	24	8	2	0	24

Feet in Length or Breadth.

4	*Feet.*	*Yards.*		*Squares*		
	Feet.	*Y.*	*F.*	*ſ.*	*q.*	*f.*
57	228	25	3	2	1	03
58	232	25	7	2	1	07
59	236	26	2	2	1	11
60	240	26	6	2	1	15
61	244	27	1	2	1	19
62	248	27	5	2	1	23
63	252	28	0	2	2	02
64	256	28	4	2	2	06
65	260	28	8	2	2	10
66	264	29	3	2	2	14
67	268	29	7	2	2	18
68	272	30	2	2	2	22
69	276	30	6	2	3	01
70	280	31	1	2	3	05
71	284	31	5	2	3	09
72	288	32	0	2	3	13
73	292	32	4	2	3	17
74	296	32	8	2	3	21
75	300	33	3	3	0	0
76	304	33	7	3	0	4
77	308	34	2	3	0	8
78	312	34	6	3	0	12
79	316	35	1	3	0	16
80	320	35	5	3	0	20
81	324	35	0	3	0	24
82	328	36	4	3	1	03
83	332	36	8	3	1	07
84	336	37	3	3	1	11

Feet in Length or Breadth.

4	*Feet.*	*Yards.*		*Squares*		
	Feet.	*Y.*	*F.*	*ſ.*	*q.*	*f.*
85	340	37	7	3	1	13
86	344	38	2	3	1	19
87	348	38	6	3	1	23
88	252	39	1	3	2	02
89	356	39	5	3	2	06
90	360	40	0	3	2	10
00						
91	364	40	4	3	2	14
92	368	40	8	3	2	18
93	372	41	3	3	2	22
94	376	41	7	3	3	01
95	380	42	2	3	3	05
96	384	42	6	3	3	09
97	388	43	01	3	3	13
98	392	43	05	3	3	17
99	396	44	0	3	3	21
100	400	44	4	4	0	00
101	405	45	0	4	0	05
102	408	45	3	4	0	08
103	412	45	7	4	0	12
104	416	46	2	4	0	16
105	420	46	6	4	0	20
106	424	47	01	4	0	24
107	428	47	05	4	01	03
108	432	48	00	4	1	07
109	436	48	4	4	1	11
110	440	48	8	4	1	15
111	444	48	12	4	1	19
112	446	49	5	4	1	21

Feet in Length or Breadth.

5	*Feet.*	*Yards.*		*Squares*		
	Feet.	*Y.*	*F.*	*ſ.*	*q.*	*f.*
01	05	0	05	0	0	05
02	10	1	1	0	0	10
03	15	1	6	0	0	15
04	20	2	2	0	0	20
05	25	2	7	0	1	00
06	30	3	3	0	1	05
07	35	3	8	0	1	10
08	40	4	4	0	1	15
09	45	5	0	0	1	20
10	50	5	5	0	2	00
11	55	6	1	0	2	5
12	60	6	6	0	2	10
13	65	7	2	0	2	15
14	70	7	7	0	2	20
15	75	8	9	0	3	00
16	80	8	8	0	3	05
17	85	9	4	0	3	10
18	90	10	0	0	3	15
19	95	10	5	0	3	20
20	100	11	1	1	0	00
21	105	11	6	1	0	05
22	110	12	2	1	0	10
23	115	12	7	1	0	15
24	120	13	3	1	0	20
25	125	13	8	1	1	00
26	130	14	4	1	1	15
27	135	15	0	1	1	10
28	140	15	5	1	1	15

[illegible]

Feet in Length or Breadth.

5	*Feet.*	*Yards.*		*Squares*		
	Feet.	*Y.*	*F.*	*ſ.*	*q.*	*f.*
29	145	16	1	1	1	20
30	150	16	6	1	2	00
31	155	17	2	1	2	05
32	160	17	7	1	2	10
33	165	18	3	1	2	15
34	170	18	8	1	2	20
35	175	19	4	1	3	00
36	180	20	0	1	3	05
37	185	20	5	1	3	10
38	190	21	1	1	3	15
39	195	21	6	1	3	20
40	200	22	2	2	0	00
41	205	22	7	2	0	05
42	210	23	3	2	0	10
43	215	23	8	2	0	15
44	220	24	4	2	0	20
45	225	25	0	2	1	00
46	230	25	5	2	1	05
47	235	26	1	2	1	10
48	240	26	6	2	1	15
49	245	27	2	2	1	20
50	250	27	7	2	2	00
51	255	28	3	2	2	05
52	260	28	8	2	2	10
53	265	29	4	2	2	15
54	270	30	0	2	2	20
55	275	30	5	2	3	00
56	280	31	1	2	3	05

Feet in Length or Brerdth.						
5	*Feet.*	*Yards.*		*Squares*		
	Feet.	*Y.*	*F.*	*ſ.*	*q.*	*f.*
57	285	31	6	2	3	10
58	290	32	2	2	3	15
59	295	32	7	2	3	20
60	300	33	3	3	0	00
61	305	33	8	3	0	5
62	310	34	4	3	0	10
63	315	35	0	3	0	15
64	320	35	5	3	0	20
65	325	37	2	3	1	00
66	330	36	6	3	1	05
67	335	37	2	3	1	10
68	340	37	7	3	1	15
69	345	38	3	3	1	20
70	350	38	8	3	2	00
71	355	39	4	3	2	05
72	360	40	0	3	2	10
73	365	40	5	3	2	15
74	370	41	01	3	2	20
75	375	41	06	3	3	00
76	380	42	2	3	3	05
77	385	42	7	3	3	10
78	390	43	3	3	3	15
79	395	43	8	3	3	20
80	400	44	4	4	0	00
81	405	45	0	4	0	05
82	410	45	5	4	0	10
83	415	46	1	4	0	15
84	420	56	6	4	0	20

Feet in Length or Breadth.

5	*Feet.*	*Yards.*		*Squares*		
	Feet.	*Y.*	*F.*	*ſ.*	*q.*	*f.*
85	425	47	2	4	1	00
86	430	47	7	4	1	05
87	435	48	3	4	1	10
88	440	48	8	4	1	15
89	445	49	4	4	1	20
90	450	50	0	4	2	00
91	455	50	5	4	2	5
92	460	51	01	4	2	10
93	465	51	6	4	2	15
94	470	52	2	4	2	20
95	475	52	7	4	3	00
96	480	53	3	4	3	05
97	485	53	8	4	3	10
98	490	54	4	4	3	15
99	495	55	0	4	3	20
100	500	55	5	5	0	00
101	505	56	1	5	0	05
102	510	56	6	5	0	10
103	515	57	2	5	0	15
104	520	57	7	5	0	20
105	525	58	3	5	1	00
106	530	58	8	5	1	05
107	535	59	4	5	1	10
108	540	59	9	5	1	15
109	545	60	5	5	1	20
110	550	61	1	5	2	00
111	555	61	6	5	2	05
112	560	62	2	5	3	10

Feet in Length and Breadth.

6	*Feet.*	*Yards.*		*Squares*		
	Feet.	*Y.*	*F.*	*ſ.*	*q.*	*f.*
01	06	0	06	0	0	6
02	12	1	3	0	0	12
03	18	2	0	0	0	18
04	24	2	06	0	1	24
05	30	3	3	0	1	05
06	36	4	0	0	1	11
07	42	4	6	0	1	17
08	48	5	3	0	1	23
09	54	6	0	0	2	04
10	60	6	6	0	2	10
11	66	7	3	0	2	16
12	72	8	0	0	2	22
13	78	8	6	0	2	03
14	84	9	3	0	2	09
15	90	10	0	0	3	15
16	96	10	6	0	3	21
17	102	11	3	1	0	02
18	108	12	0	1	0	08
19	114	12	6	1	0	14
20	120	13	3	1	0	20
21	126	14	0	1	0	01
22	132	14	6	1	1	07
23	138	15	3	1	1	13
24	144	16	0	1	2	19
25	150	16	6	1	2	0
26	156	17	3	1	2	6
27	162	18	0	1	2	12
28	168	18	6	1	2	18

Feet in Length and Breadth.

6	*Feet.*	*Yards.*		*Squares*		
	Feet.	*Y.*	*F.*	*ſ.*	*q.*	*f.*
29	174	19	3	1	2	24
30	180	20	0	1	3	05
31	186	20	6	1	3	11
32	192	21	3	1	3	17
33	198	22	0	1	3	23
34	204	22	6	2	0	04
35	210	23	3	2	2	10
36	216	24	0	2	0	16
37	222	24	6	2	0	22
38	228	25	3	2	1	03
39	234	26	0	2	1	09
40	240	26	6	2	1	15
41	246	27	3	2	1	21
42	252	28	0	2	1	02
43	258	28	6	2	2	08
44	264	29	3	2	2	14
45	270	30	0	2	2	20
46	276	30	6	2	3	01
47	282	31	3	2	3	07
48	288	32	0	2	3	13
49	294	32	6	2	3	19
50	300	33	3	3	0	0
51	306	34	0	3	0	06
52	312	34	6	3	0	12
53	118	35	3	3	0	18
54	324	36	0	3	0	24
55	330	36	6	3	1	05
56	336	37	3	3	1	11

Feet in Length or Breadth.

6	*Feet.*	*Yards.*		*Squares*		
	Feet.	*Y.*	*F.*	*ſ.*	*q.*	*f.*
57	342	38	0	3	1	17
58	348	38	6	3	1	23
59	354	39	3	3	2	04
60	360	40	0	3	2	10
61	366	40	6	3	2	16
62	372	41	3	3	2	22
63	378	42	0	3	2	3
64	384	42	6	3	3	09
65	390	43	3	3	3	15
66	396	44	0	3	3	21
67	402	44	6	4	0	02
68	408	45	3	4	0	08
69	414	46	0	4	0	14
70	420	46	6	4	0	20
71	426	47	3	4	1	01
72	232	48	0	4	1	07
73	438	48	6	4	1	13
74	444	49	3	4	1	19
75	450	50	0	4	2	0
76	456	50	6	4	2	6
77	462	51	3	4	2	12
78	468	52	0	4	2	18
79	474	52	6	4	2	24
80	480	53	3	4	3	05
81	486	54	0	4	3	11
82	492	54	6	4	3	17
83	498	55	3	4	1	24
84	504	56		4	0	4

Feet in Length or Breadth.

6	Feet.	Yards.		Squares		
	Feet.	Y.	F.	ſ.	q.	f.
85	510	56	6	5	0	10
86	516	57	3	5	0	16
87	522	58	0	5	0	22
88	528	58	6	5	1	03
89	534	59	3	5	1	09
90	540	60	0	5	1	15
91	546	60	6	5	1	21
92	552	61	3	5	2	2
93	558	62	0	5	2	8
94	564	62	6	5	2	14
95	570	63	3	5	2	20
96	576	64	0	5	3	01
97	582	64	6	5	3	07
98	588	65	3	5	3	13
99	594	66	0	6	3	19
100	600	66	6	6	0	00
101	606	67	3	6	0	06
102	612	68	0	6	0	12
103	618	68	6	6	0	18
104	624	69	3	6	0	24
105	630	70	0	6	1	05
106	636	70	6	6	1	11
107	642	71	3	6	1	17
108	648	72	0	6	1	23
109	654	72	6	6	2	04
110	660	73	3	6	2	10
111	666	74	0	6	2	16
112	673	74	6	6	2	22

Feet in Length or Breadth.

7	*Feet.*	*Yards.*		*Squares*		
	Feet.	*Y.*	*F.*	*ſ.*	*q.*	*f.*
01	07	0	07	0	0	07
02	14	1	5	0	0	14
03	21	2	3	0	0	21
04	28	3	1	0	1	03
05	35	3	8	0	1	10
06	42	4	6	0	1	17
07	49	5	4	0	1	24
08	56	6	2	0	2	06
09	63	7	0	0	2	13
10	70	7	7	0	2	20
11	77	8	5	0	3	02
12	84	9	3	0	3	09
13	91	10	01	0	3	16
14	98	10	8	0	3	23
15	105	11	6	1	0	05
16	112	12	4	1	0	12
17	119	13	2	1	0	19
18	126	14	0	1	1	01
19	133	14	7	1	1	08
20	140	15	5	1	1	15
21	147	16	3	1	1	22
22	154	17	1	1	2	04
23	161	17	8	1	2	11
24	168	18	6	1	2	18
25	175	19	4	1	3	00
26	182	20	2	1	3	07
27	189	21	0	1	3	14
28	196	21	7	1	3	21

Feet in Length or Breadth.

7	*Feet.*	*Yards.*		*Squares*		
	Feet.	*Y.*	*F.*	*ſ.*	*q.*	*f.*
29	203	22	5	2	0	03
30	210	23	3	2	0	10
31	217	24	01	2	0	17
32	224	24	08	2	0	24
33	231	25	06	2	1	06
34	238	26	4	2	1	13
35	245	27	2	2	1	20
36	252	28	0	2	2	2
37	259	28	7	2	2	9
38	266	29	5	2	2	16
39	273	30	3	2	2	23
40	280	31	01	2	3	05
41	287	31	08	2	3	12
42	294	32	06	2	3	19
43	301	33	4	3	0	01
44	308	34	2	3	0	8
45	315	35	0	3	0	15
46	322	35	7	3	0	22
47	329	36	5	3	1	04
48	336	37	3	3	1	11
49	343	38	1	3	1	18
50	350	38	8	3	2	0
51	357	39	6	3	2	7
52	364	40	4	3	2	14
53	371	41	2	3	2	21
54	378	42	0	3	3	03
55	385	42	7	3	3	10
56	392	43	5	3	3	17

Feet in Length or Breadth.

7	*Feet.*	*Yards.*		*Squares*		
	Feet.	*Y.*	*F.*	*ſ.*	*q.*	*f.*
57	399	44	3	3	3	24
58	406	45	01	4	0	06
59	413	45	8	4	0	13
60	420	46	6	4	0	20
61	427	47	4	4	1	02
62	434	48	2	4	1	09
63	441	49	0	4	1	16
64	448	49	7	4	1	23
65	455	50	5	4	2	05
66	462	51	3	4	2	12
67	469	52	1	4	2	19
68	476	52	8	4	3	01
69	483	53	6	4	3	08
70	490	54	4	4	3	15
71	497	55	2	4	3	22
72	504	56	0	5	0	04
73	511	56	7	5	0	11
74	518	57	5	5	0	18
75	525	58	3	5	1	0
76	532	59	1	5	1	07
77	539	59	8	5	1	14
78	546	60	6	5	1	21
79	553	61	4	5	2	03
80	560	62	2	5	2	10
81	567	63	0	5	2	17
82	574	63	7	5	2	24
83	581	64	5	5	3	06
84	588	65	3	5	3	13

Feet in Length and Breadth.

7	*Feet.*	*Yards.*		*Squares*		
	Feet.	*Y.*	*F.*	*ſ.*	*q.*	*f.*
85	596	66	1	5	3	20
86	602	66	8	6	0	2
87	609	67	6	6	0	9
88	616	68	4	6	0	16
89	623	69	2	6	0	23
90	630	70	0	6	1	05
91	637	70	7	6	1	12
92	644	71	5	6	1	19
93	651	72	3	6	2	1
94	658	73	1	6	2	8
95	665	74	8	6	2	15
96	672	74	6	6	2	22
97	679	75	4	6	3	04
98	686	76	2	6	3	11
99	693	77	0	6	3	18
100	700	77	7	7	0	0
101	707	78	5	7	0	7
102	714	79	3	7	0	14
103	721	80	1	7	0	21
104	728	88	7	7	1	3
105	735	81	6	7	1	10
106	742	82	4	7	1	17
107	749	83	2	7	1	24
108	356	84	00	7	2	6
109	763	84	7	7	2	13
110	770	85	5	7	2	20
111	777	86	3	7	3	2
112	784	87	01	7	3	9

Feet in Length or Breadth.						
8	*Feet.*	*Yards.*		*Squares*		
	Feet.	*Y.*	*F.*	*ſ.*	*q.*	*f.*
01	08	00	08	0	0	8
02	16	01	07	0	0	16
03	24	02	06	0	0	24
04	32	03	05	0	1	07
05	40	04	04	0	1	15
06	48	05	03	0	1	22
07	56	06	02	0	2	06
08	64	07	01	0	2	14
09	72	08	00	0	2	22
10	80	08	08	0	3	05
11	88	09	07	0	3	13
12	96	10	06	0	3	21
13	204	11	05	1	0	04
14	112	11	04	1	0	12
15	120	13	03	1	0	10
16	128	14	02	1	0	3
17	136	15	01	1	1	11
18	144	16	00	1	1	19
19	152	16	08	1	1	02
20	160	17	07	1	2	10
21	168	18	06	1	2	18
22	176	19	05	1	3	01
23	184	20	04	1	3	09
24	192	21	03	1	3	17
25	200	22	02	2	0	0
26	208	23	01	2	0	8
27	216	24	00	2	0	16
28	224	24	08	2	0	24

Feet in Length or Breadth.

8	*Feet.*	*Yards.*		*Squares*		
	Feet.	*Y.*	*F.*	*ſ.*	*q.*	*f.*
29	232	25	7	2	1	7
30	240	26	6	2	1	15
31	248	27	5	2	1	22
32	256	28	4	2	2	06
33	264	29	3	2	2	14
34	272	30	2	2	2	22
35	280	31	1	2	3	5
36	288	32	0	2	3	13
37	296	32	8	2	3	21
38	304	33	7	3	0	04
39	312	34	6	3	0	12
40	320	35	5	3	0	20
41	328	36	4	3	1	03
42	336	37	3	3	1	11
43	344	38	2	3	1	19
44	352	39	1	3	2	2
45	360	40	8	3	2	10
46	368	40	8	3	2	18
47	376	41	7	3	3	01
48	384	42	6	3	3	9
49	392	43	5	3	3	17
50	400	44	4	4	0	0
51	408	45	3	4	0	8
52	416	46	2	4	0	16
53	424	47	1	4	0	24
54	432	48	0	4	1	7
55	440	48	8	4	1	15
56	448	49	7	4	1	23

Feet in Length or Breadth.

8	Feet.	Yards.		Squares		
	Feet.	Y.	F.	ſ.	q.	f.
57	456	50	6	4	2	6
58	464	51	5	4	2	14
59	472	52	4	4	2	22
60	480	53	3	4	3	05
61	488	54	2	4	3	13
62	496	55	1	4	3	21
63	504	56	0	5	0	4
64	512	56	8	5	0	12
65	520	57	7	5	0	20
66	528	58	6	5	1	3
67	536	59	5	5	1	11
68	544	60	4	5	1	19
69	552	61	3	5	2	2
70	560	62	2	5	2	10
71	568	63	1	5	2	18
72	576	64	0	5	3	01
73	504	64	8	5	3	9
74	592	65	7	5	3	17
75	600	66	6	6	0	0
76	608	67	5	6	0	8
77	616	68	4	6	0	16
78	624	69	3	6	0	24
79	632	70	2	6	1	7
80	640	71	1	6	1	18
81	648	72	0	6	1	22
82	656	72	8	6	2	6
83	664	73	7	6	2	14
84	672	74	6	6	2	22

Feet in Length or Breadth.

8	*Feet.*	*Yards.*		*Squares*		
	Feet.	*Y.*	*F.*	*ſ.*	*q.*	*f.*
85	680	75	5	6	3	5
86	688	76	4	6	3	13
87	696	77	3	6	3	21
88	704	78	2	7	0	4
89	712	79	1	7	0	12
90	720	80	0	7	0	20
91	728	80	8	7	1	3
92	736	81	7	7	1	11
93	744	82	6	7	1	19
94	752	83	5	7	2	2
95	760	84	4	7	2	10
96	768	85	3	7	2	18
97	776	86	2	7	3	01
98	784	87	1	7	3	9
99	792	88	0	7	3	17
100	800	88	8	8	0	00
101	808	89	7	8	0	8
102	816	90	6	8	0	16
103	824	91	5	8	0	24
104	832	92	4	8	1	7
105	840	93	3	8	1	15
106	848	94	2	8	1	23
107	856	95	1	8	2	6
108	864	96	0	8	2	14
109	872	96	8	8	2	22
110	880	97	7	8	3	5
111	888	98	6	8	3	13
112	896	99	5	8	3	21

Feet in Length or Breadth.

9	Feet.	Yards.		Squares		
	Feet.	Y.	F.	ſ.	q.	f.
01	09	01	00	0	0	9
02	18	02	00	0	0	18
03	27	03	00	0	0	27
04	36	04	00	0	0	36
05	45	05	00	0	0	45
06	54	06	00	0	0	54
07	63	07	00	0	0	63
08	72	08	00	0	2	22
09	81	09	00	0	3	06
10	90	10	00	0	3	15
11	99	11	00	0	3	45
12	108	12	00	1	0	08
13	117	13	00	1	0	17
14	126	14	00	1	1	01
15	135	15	00	1	1	10
16	144	16	00	1	1	19
17	153	17	00	1	2	03
18	162	18	00	1	2	12
19	171	19	00	1	2	21
20	180	20	00	1	3	05
21	189	21	00	1	3	14
22	198	22	00	1	3	23
23	207	23	00	2	0	07
24	216	24	00	2	0	16
25	225	25	00	2	1	00
26	234	26	00	2	1	91
27	243	27	00	2	1	18
28	252	28	00	2	2	2

Feet in Length or Breadth.

9	*Feet.*	*Yards.*		*Squares*		
·	*Feet.*	*Y.*	*F.*	*ſ.*	*q.*	*f.*
29	261	29	00	2	2	11
30	270	30	0	2	2	20
31	279	31	0	2	3	04
32	288	32	0	2	3	13
33	297	33	0	2	3	22
34	306	34	0	3	0	06
35	315	35	0	3	0	15
36	324	36	0	3	0	24
37	333	37	0	3	1	08
38	342	38	0	3	1	17
39	351	39	0	3	2	01
40	360	40	0	3	2	10
41	396	41	0	3	2	19
42	378	42	0	3	3	03
43	387	43	0	3	3	12
44	396	44	0	3	3	21
45	405	45	0	4	0	05
46	414	46	0	4	0	14
47	423	47	0	4	0	23
48	432	48	0	4	1	07
49	441	49	0	4	1	16
50	450	50	0	4	2	0
51	459	51	0	4	2	9
52	468	52	0	4	2	18
53	477	53	0	4	3	02
54	486	54	0	4	3	11
55	495	55	0	4	3	20
56	504	56	0	5	0	04

Feet in Length or Breadth.

9	Feet.	Yards.		Squares		
	Feet.	Y.	F.	ſ.	q.	f.
57	513	57	0	5	0	13
58	522	58	0	5	0	22
59	531	59	0	5	1	06
60	540	60	0	5	1	15
61	549	61	0	5	1	24
62	558	62	0	5	2	08
63	567	63	0	5	2	17
64	576	64	0	5	3	01
65	585	65	0	5	3	10
66	594	66	0	5	3	19
67	603	67	0	6	0	03
68	612	68	0	6	0	12
69	621	69	0	6	0	21
70	630	70	0	6	1	05
71	639	71	0	6	1	14
72	648	72	0	6	1	23
73	657	73	0	6	2	07
74	666	74	0	6	2	16
75	675	75	0	6	3	0
76	684	76	0	6	3	0
77	693	77	0	6	3	18
78	702	78	0	7	0	02
79	711	79	0	7	0	11
80	720	80	0	7	0	20
81	729	81	0	7	1	04
82	738	82	0	7	1	13
83	747	83	0	7	1	22
84	756	84	0	7	2	06

Feet in Length or Breadth.

9	Feet.	Yards.		Squares		
	Feet.	Y.	F.	ſ.	q.	f.
85	765	85	0	7	2	15
86	774	86	0	7	2	24
87	783	87	0	7	3	08
88	792	88	0	7	3	17
89	801	89	0	8	0	10
90	810	90	0	8	0	10
91	819	91	0	8	0	19
92	828	92	0	8	1	03
93	837	93	0	8	1	12
94	846	94	0	8	1	21
95	855	95	0	8	2	05
96	864	96	0	8	2	14
97	873	97	0	8	2	23
98	882	98	0	8	3	07
99	891	99	0	8	3	16
100	900	100	0	9	0	00
101	909	101	0	9	0	09
102	918	102	0	9	0	18
103	927	103	0	9	1	02
104	936	104	0	9	1	11
105	945	105	0	9	1	20
106	954	106	0	9	2	04
107	963	107	0	9	2	13
108	972	108	0	9	2	22
109	981	109	0	9	3	06
110	990	110	0	9	3	14
111	999	111	0	9	3	24
112	1008	113	0	10		08

Feet in Length or Breadth.

10	*Feet.*	*Yards.*		*Squares*		
	Feet.	*Y.*	*F.*	*ſ.*	*q.*	*f.*
01	10	01	01	0	0	10
02	20	02	02	0	0	20
03	30	03	03	0	1	05
04	40	04	04	0	1	10
05	50	05	05	0	2	00
06	60	06	06	0	2	10
07	70	07	07	0	2	20
08	80	08	08	0	3	05
09	90	10	00	0	3	15
10	100	11	01	1	0	00
11	110	12	02	1	0	10
12	120	13	03	1	0	20
13	130	14	04	1	1	05
14	140	15	05	1	1	10
15	150	16	06	1	2	00
16	160	17	07	1	2	10
17	170	18	08	1	2	20
18	180	20	00	1	3	05
19	190	21	01	1	3	15
20	200	22	02	2	0	0
21	210	23	03	2	0	10
22	220	24	04	2	0	20
23	230	25	05	2	1	05
24	240	26	06	2	1	15
25	250	27	07	2	2	00
26	260	28	08	2	2	10
27	270	30	00	2	2	20
28	280	31	01	2	3	05

Feet in Length or Breadth.

11	*Feet.*	*Yards.*		*Squares*		
	Feet.	*Y.*	*F.*	*ſ.*	*q.*	*f.*
29	290	32	2	2	3	15
30	300	33	3	3	0	00
31	310	34	04	3	0	10
32	320	35	05	3	0	20
33	330	36	06	3	1	05
34	340	37	07	3	1	15
35	350	38	08	3	2	00
36	360	40	00	3	2	10
37	370	41	01	3	2	20
38	380	42	02	3	3	05
39	390	43	03	3	3	15
40	400	44	04	4	0	00
41	410	45	05	4	0	10
42	420	46	06	4	0	20
43	430	47	07	4	1	05
44	440	48	08	4	1	15
45	450	50	00	4	2	00
46	460	51	01	4	2	10
47	470	52	02	4	2	20
48	480	53	03	4	3	05
49	490	54	04	4	3	15
50	500	55	05	5	0	00
51	510	56	06	5	0	10
52	520	57	07	5	0	20
53	530	58	08	5	1	05
54	540	60	0	5	1	15
55	550	61	01	5	2	00
56	560	62.	02	5	2	10

Feet in Length or Breadth.

10	*Feet.*	*Yards.*		*Squares*		
	Feet.	*Y.*	*F.*	*ſ.*	*q.*	*f.*
57	570	63	03	5	2	20
58	580	64	04	5	3	05
59	590	65	05	5	3	15
60	600	66	06	6	0	00
61	610	67	07	6	0	10
62	620	68	08	6	0	20
63	630	70	00	6	1	05
64	640	71	01	6	1	15
65	650	72	02	6	2	00
66	660	73	03	6	2	10
67	670	74	04	6	2	20
68	680	75	05	6	3	05
69	690	76	06	6	3	15
70	700	77	07	7	0	00
71	710	78	08	7	0	10
72	720	80	00	7	0	20
73	730	81	01	7	1	05
74	740	82	02	7	1	15
75	750	83	03	7	2	00
76	760	84	04	7	2	10
77	770	85	05	7	2	20
78	780	86	06	7	3	05
79	790	87	07	7	3	15
80	800	88	08	8	0	10
81	810	89	09	8	0	20
82	820	91	01	8	1	05
83	830	92	02	8	1	15
84	840	93	03	8	2	00

Feet in Length or Breadth.

10	*Feet.*	*Yards.*		*Squares*		
	Feet.	*Y.*	*F.*	*ſ.*	*q.*	*f.*
85	850	94	04	8	2	00
86	860	95	05	8	2	10
87	870	96	06	8	2	20
88	880	79	07	8	3	05
89	890	98	08	8	3	15
90	900	100	00	9	0	00
91	910	101	1	9	0	10
92	920	102	2	9	0	20
93	930	103	3	9	1	05
94	940	104	4	9	1	15
95	950	105	5	9	2	00
96	960	106	6	9	2	10
97	970	107	7	9	2	20
98	980	108	8	9	3	05
99	990	110	00	9	3	15
100	1000	111	01	10	0	00
101	1010	112	02	10	0	10
102	1020	113	03	10	0	20
103	1030	114	04	10	1	5
104	1040	115	05	10	1	15
105	1050	116	06	10	2	0
106	1060	117	7	10	2	10
107	1070	118	8	10	2	20
108	1080	120	0	10	3	05
109	1090	121	01	10	3	15
110	1100	122	2	11	0	00
111	1110	123	3	11	0	10
112	1120	124	0	11	0	20

Feet in Length or Breadth.

11	*Feet.*	*Yards.*		*Squares*		
	Feet.	*Y.*	*F.*	*ſ.*	*q.*	*f.*
01	11	1	2	0	0	11
02	22	2	4	0	0	22
03	33	3	6	0	1	08
04	44	4	8	0	1	19
05	55	6	01	0	2	05
06	66	7	3	0	2	16
07	77	8	5	0	3	02
08	88	9	7	0	3	13
09	99	11	00	0	3	24
10	110	12	2	1	0	10
11	121	13	4	1	0	21
12	132	14	6	1	1	07
13	143	15	8	1	1	18
14	154	17	01	1	2	04
15	165	18	03	1	2	15
16	176	19	5	1	3	01
17	187	20	7	1	3	12
18	198	22	0	1	3	23
19	209	23	2	2	0	09
20	220	24	4	2	0	20
21	231	25	6	2	1	06
22	242	26	8	2	1	17
23	253	28	1	2	2	03
24	264	29	3	2	2	14
25	275	30	5	2	3	00
26	286	31	7	2	3	11
27	297	33	0	2	3	22
28	308	34	2	3	0	08

Feet in Length or Breadth.						
11	*Feet.*	*Yards.*		*Squares*		
	Feet.	*Y.*	*F.*	*ſ.*	*q.*	*f.*
29	319	35	4	3	0	19
30	330	36	6	3	1	05
31	341	37	8	3	1	16
32	352	39	01	3	2	02
33	363	40	3	3	2	13
34	374	41	5	3	2	24
35	385	42	7	3	3	10
36	396	44	0	3	3	21
37	407	45	2	4	0	07
38	418	46	4	4	0	18
39	429	47	0	4	1	04
40	440	48	8	4	1	15
41	451	50	01	4	1	01
42	462	51	03	4	2	12
43	473	52	5	4	2	23
44	484	53	7	4	3	09
45	495	55	0	4	3	20
46	506	56	2	5	0	06
47	517	57	4	5	0	17
48	528	58	6	5	1	03
49	539	59	8	5	1	14
50	550	61	01	5	2	00
51	561	62	03	5	2	11
52	572	63	5	5	2	22
53	583	64	7	5	3	08
54	594	66	0	5	3	19
55	605	67	2	6	0	05
56	616	68	4	6	0	16

Feet in Length or Breadth.

11	Feet.	Yards.		Square		
	Feet.	Y.	F.	ſ.	q.	f.
57	627	69	6	6	1	2
58	638	70	8	6	1	13
59	649	72	01	6	1	24
60	660	73	03	6	2	10
61	671	74	5	6	2	21
62	682	75	7	6	3	07
63	693	77	00	6	3	18
64	704	78	2	7	0	04
65	715	79	4	7	0	15
66	726	80	6	7	1	01
67	737	81	8	7	1	12
68	748	83	01	7	1	23
69	759	84	3	7	2	09
70	770	85	5	7	2	20
71	781	86	7	7	3	06
72	792	88	0	7	3	17
73	803	89	2	8	0	03
74	814	90	4	8	0	14
75	825	91	6	8	1	00
76	836	92	8	8	1	11
77	847	94	01	8	1	22
78	858	95	3	8	2	08
79	869	96	5	8	2	19
80	880	97	7	8	3	05
81	891	99	00	8	3	16
82	902	100	00	9	0	02
83	913	101	4	9	0	13
84	924	102	6	9	0	24

Feet in Length or Breadth.

11	*Feet.*	*Yards.*		*Squares*		
	Feet.	*Y.*	*F.*	*ſ.*	*q.*	*ſ.*
85	935	103	8	9	1	10
86	946	105	01	9	1	21
87	957	106	3	9	2	07
88	968	107	5	9	2	18
89	979	108	7	9	3	04
90	990	110	0	9	3	15
91	1001	111	2	10	0	01
92	1012	112	4	10	0	12
93	1023	113	6	10	0	23
94	1034	114	8	10	1	09
95	1045	116	01	10	1	20
96	1056	117	3	10	2	06
97	1067	118	5	10	2	17
98	1078	119	7	10	3	03
99	1089	121	0	10	3	14
100	1100	122	2	11	0	00
101	1111	123	4	11	0	11
102	1122	124	6	11	0	22
103	1133	125	8	11	1	08
104	1144	127	01	11	1	19
105	1155	128	3	11	2	05
106	1166	129	5	11	2	16
107	1177	130	7	11	3	02
108	1188	132	0	11	3	13
109	1199	133	2	11	3	24
110	1210	134	4	12	0	10
111	1221	135	6	12	0	21
112	1232	136	8	12	1	7

Feet in Length or Breadth.

12	*Feet.*	*Yards.*		*Squares*		
	Feet.	*Y.*	*F.*	*ſ.*	*q.*	*f.*
01	12	1	3	0	0	12
02	24	2	6	0	0	24
03	36	4	0	0	1	11
04	48	5	3	0	1	23
05	60	6	6	0	2	10
06	72	8	0	0	2	22
07	84	9	3	0	3	09
08	96	10	6	0	3	21
09	108	12	0	1	0	08
10	120	13	3	1	0	20
11	132	14	6	1	1	07
12	144	16	0	1	1	19
13	156	17	3	1	2	06
14	168	18	6	1	2	18
15	180	20	0	1	3	05
16	192	21	3	1	3	17
17	204	22	6	2	0	04
18	216	24	0	2	0	16
19	224	25	3	2	0	24
20	240	26	6	2	1	15
21	252	28	0	2	2	02
22	264	29	3	2	2	14
23	276	30	6	2	3	01
24	288	32	0	2	3	13
25	300	33	3	3	0	00
26	312	34	6	3	0	12
27	324	36	0	3	0	24
28	336	37	3	3	1	11

Feet in Length or Breadth.

12	*Feet.*	*Yards.*		*Squares*		
	Feet.	*Y.*	*F.*	*ſ.*	*q.*	*f.*
29	348	38	6	3	1	23
30	360	40	0	3	2	10
31	372	41	3	3	2	22
32	384	42	6	3	3	09
33	396	44	0	3	3	21
34	408	45	3	4	0	08
35	420	46	06	4	0	20
36	432	48	0	4	1	07
37	444	49	3	4	1	19
38	456	50	6	4	2	06
39	468	52	0	4	2	18
40	480	53	3	4	3	05
41	492	54	6	4	3	17
42	504	56	0	5	0	04
43	516	57	3	5	0	16
44	528	58	6	5	1	03
45	540	60	0	5	1	15
46	552	61	3	5	2	02
47	564	62	6	5	2	14
48	576	64	0	5	3	01
49	588	65	3	5	3	13
50	600	66	6	6	0	00
51	612	68	0	6	0	12
52	624	69	3	6	0	24
53	636	70	6	6	1	11
54	648	72	0	6	1	23
55	660	73	3	6	2	10
56	672	74	6	6	2	22

Feet in Length or Breadth.

12	Feet.	Yards.		Squares		
	Feet.	Y.	F.	ſ.	q.	f.
57	684	76	0	6	3	09
58	696	77	3	6	3	21
59	708	78	6	7	0	08
60	720	80	0	7	0	20
61	732	81	3	7	1	07
62	744	82	6	7	1	19
63	756	84	0	7	2	06
64	768	85	3	7	2	18
65	780	86	6	7	3	05
66	792	88	0	7	3	17
67	804	89	3	8	0	04
68	816	90	6	8	0	16
69	828	92	0	8	1	03
70	840	93	3	8	1	15
71	852	94	6	8	2	02
72	864	96	0	8	2	14
73	876	97	3	8	3	01
74	888	98	6	8	3	13
75	900	100	0	9	0	00
76	912	101	3	9	0	12
77	924	102	6	9	0	24
78	936	104	0	9	1	11
79	948	105	3	9	1	23
80	960	108	6	9	2	10
81	972	107	0	9	2	22
82	984	109	3	9	3	91
83	996	110	6	9	3	21
84	1008	112	0	10	0	08

Feet in Length or Breadth.

12	*Feet.*	*Yards.*		*Squares*		
	Feet.	*Y.*	*F.*	*ſ.*	*q.*	*f.*
85	1020	113	3	10	0	20
86	1032	114	6	10	1	07
87	1044	116	0	10	1	19
88	1056	117	3	10	2	06
89	1068	118	6	10	2	18
90	1080	120	0	10	3	05
91	1092	121	3	10	3	17
92	1104	122	6	11	0	04
93	1116	124	0	11	0	16
94	1128	125	3	11	1	03
95	1140	126	6	11	1	15
96	1152	128	0	11	2	02
97	1164	129	3	11	2	14
98	1176	130	6	11	3	01
99	1188	132	0	11	3	15
100	1200	133	3	12	0	00
101	1212	134	6	12	0	12
102	1224	136	0	12	0	24
103	1236	137	3	12	1	11
104	1248	138	6	12	1	23
105	1260	140	0	12	2	10
106	1272	141	3	12	2	22
107	1284	142	6	12	3	09
108	1296	144	0	12	3	21
109	1308	145	3	12	0	08
110	1320	146	6	13	0	20
111	1332	148	0	13	1	07
112	1344	149	3	13	1	19

The Line of Proportion, commonly call'd Gunters-Line.

This Line is ſo well known amongſt all ſorts of Men, as Carpenters, Joyners, Maſons, Brick-Layers, *&c.* that it needs no Explication, for if once the Reader comes rightly to underſtand the Numbers upon it, he will eaſily come to the Practical uſe of it; and for its Excellency the World has not invented a more Ingenions Method, for all kind of Menſurations, either Superficial or Solids, as Board, Glaſs, Pavement, Tyling, *&c.* or as Timber, Stone, Pillars, Pyramids, *&c.* are by this Line very eaſily, ſpeedily and exactly perform'd; and whatever Menſurations may be perform'd by Arithmetick, this Line will do exactly, and much ſooner, as ſhall be made appear by working ſeveral Queſtions.

The Proportion.

As 12 is to the breadth in Inches, ſo is the length in Feet to the Superficial Content.

General Rule.

You muſt always take the breadth or ſquare of your Timber or Board in Inches firſt, within your Compaſſes.

There is a Board 15 Inches Square, and 25 Foot in length; What's the Content?

Say as 12 is to 15 Inches the breadth, ſo is 25 Foot to the Superficial Content.

Put one Foot of the Compaſs in 12, extend the other to 15, the ſame extent will reach from 25 to 31 Foot, and 25 Parts, the Content.

There's a Geometrical Square which is 6 Foot Square; What's the Content?

Say as 12 is to 72 Inches (which is 6 Foot) the breadth, ſo is 6 Foot to the Content.

Put one Foot of the Compaſs in 12, extend the other to 72, the ſame extent, will reach from 6 to 36 the Content.

There's a Plank 20 Inches broad and 40 Foot in length; What's the Content?

Extend the Compaſs from 12 to 20, the ſame extent will reach from 40 to 67 Foot, the Content.

There's a Board in length 8 Foot, and in breadth 6 Inches; What's the Content?

Say as 12 is to 6 Inches, ſo is 8 Foot to 4, the Content.

Extend the Compaſſes from 12 to 6 (downwards to the Left Hand) the ſame extent will reach from 8 to 4 Foot, the Content?

Note, All Boards or Timber that are under 12 Inches in breadth, you muſt always extend the Compaſſes downwards to the Left Hand, and all above 12 extend upwards to the Right Hand.

There's a Board that is 9 Inches broad and 4 Foot in length; What's the Content?

Extend the Compaſſes from 12 to 9, the ſame extent will reach from 4 to 3 Foot the Content.

There's a Board is 7 Inches and 5 Parts, or 7 Inches and a half, and 20 Foot in length; What's the Content?

Extend the Compaſſes from 12 to 7.5 the ſame extent will reach from 20 to 12.5 the Content.

But if you'll Meaſure the breadth in Feet.

The Proportion.

As (1) is to the breadth, ſo is the length to the Superficial Content.

There's a Plank 2 Foot broad and in length 30 Foot; What's the Content?

Extend the Compaſſes from 1 to 2, the ſame extent will reach from 30 to 60 the Content.

To find the Area of a Triangle.

Altho' there be ſix ſorts of Triangles, yet they are all meaſured by one and the ſame Rule, by Multiplying the whole Baſe by half the Perpendicular, or the whole Perpendicular by half the Baſe gives the Area.

By the Scales.

The Proportion.

As 2 is to the Perpendicular, ſo is the Baſe to the Area.

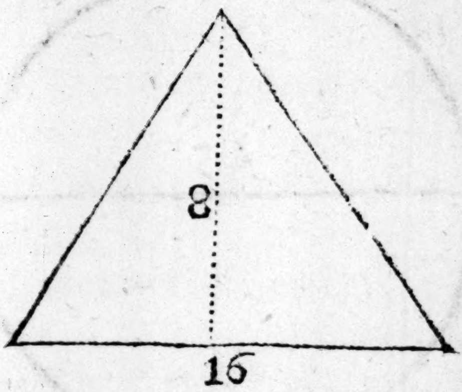
Or,

As 1 is to the half Baſe, ſo is the Perpendicular to the Area.

There's a Triangle whoſe Baſe is 16 Foot, the Perpendicular 8 Foot; What's the Area?

Extend the Compaſſes from 2 to 8, the ſame extent will reach from 16 to 64, the Area of the Triangle.

This



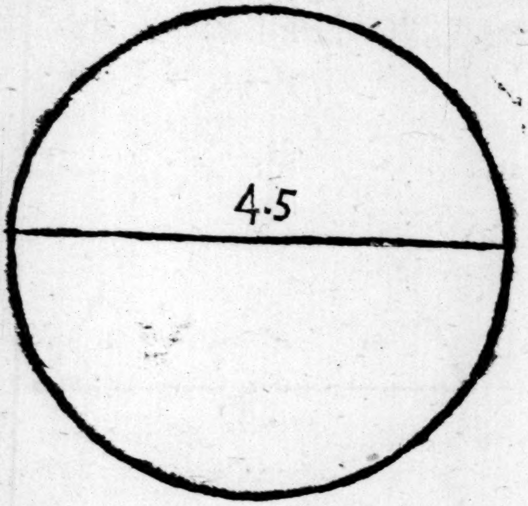
This repreſents the Gable end of a Houſe.

Of Circles.

The Diameter of a Circle being 1.0000 the Circumference will be 3.14159, or for Practice 3.1416 is exact enough.

The Proportion.

As 1.0000 is to 3.140 ſo is the Diameter to the Circumference.



Extend the Compaſs from 1.000 to 3.140, the ſame Extent will reach from 4.5, the Diameter of the foregoing Circle, to 14.13 the Circumference.

To find the Diameter.

As 3.140 is to 1.0000, ſo is the Circumference to the Diameter.

To find the Area of a Circle.

The Proportion.

As 1 is to half the Diameter, ſo is half the Circumference to the Area.

The Diameter of a Circle 4.5, the Circumference 14.13, what's the Area?

Extend the Compaſſes from 1 to 2.25 (half the Diameter) the ſame Extent will reach from 7.6 (half the Circumference) to 17 the Area of the Circle.

You may meaſure Circles by this Proportion.

As 7 is to 22, ſo is the Diameter to the Circumference.

Suppoſe the Diameter of a Circle be 4.5 Foot, what's the Circumference?

Extend the Compaſſes from 7 to 22, the ſame Extent will reach from 4.5 to 14.13.

The Circumference given to find the Diameter.

As 22 is to 7, ſo is the Circumference to the Diameter.

Extend the Compaſſes from 7 to 22, the ſame Extent will reach from 14.13 to 4.5.

Or you may find the Area of Circles, by theſe general Rules which are Centers of Circles.

Diameter	10.
Circumference	31.42
Square equal	08.86
Square within	07.07
Area of a Circle	78.54
Area of a Semicircle	39.27
Area of a Quadrant	19.63

Example.

Suppoſe the Diameter of a Circle is 4.5, what's the Circumference?

Extend the Compaſſes (downwards to the left Hand) to 4.5, the ſame Extent will reach from 31.42 to 14.13 the Circumference.

The Diameter is 4 Foot, what's the Area?

Extend the Compaſſes from 10. to 4, the ſame Extent will reach from 78.54 (repeating the Compaſſes twice) to 12.6 the Area.

Note, All Circles whoſe Diameters are under 10, extend the Compaſſes downwards to the left Hand, and all above 10, extend it upward.

Suppoſe the Diameter is 15 Foot, what's the Area?

The Area you'll find to be 176.62 Foot.

To meaſure Timber by Gunter's *Line.*

Timber is meaſured by the Foot ſolid; and in meaſuring of ſquare Timber, three Dimenſions muſt be taken, that is, Length, Breadth, and Depth, by which the Content in ſolid Feet in any Piece of Timber is eaſily found.

The Proportion.

As 12 is to the ſide of the Square given in Inches, ſo is the Length in Feet to the fourth Number. And that fourth Number to the Content in Foot meaſure.

Example.

There's a Piece of Timber 15 Inches ſquare, and 16 Foot long, what's the ſolid Content?

The Extent upon the Line of Numbers from 12 to 15 the ſquare Inches, the ſame Extent will reach from 16 (being twice repeated) to 25 Foot the ſolid Content.

There's a Tree 20 Inches ſquare, and in length 27 Foot, what's the Content?

The Extent from 12 to 20 Inches, the ſame Extent (being twice repeated) from 27 will reach to 75 Foot the Content required.

There's a Tree 10 Inches ſquare, and in length 26 Foot, what's the Content?

Extend the Compaſſes from 12 to 10. downwards, the ſame Extent will reach from 26 (being twice repeated downwards) to 18 the ſolid Content.

Note, whenever the ſquare is under 12 Inches, you muſt always extend the Compaſſes downwards to the left Hand.

There's a Piece of Timber that is 5.5 ſquare, in length 25 Foot, what's the ſolid Content?

The Extent from 12 to 5.5 being twice repeated from 25 downwards, will fall upon 5.25 the Content.

There's a Tree that is 3 Foot, or 36 Inches ſquare, in length 30 Foot, what's the ſolid Content?

In meaſuring great Timber, the Extent of the Compaſſes will reach (being twice repeated) beyond the Line, in ſuch caſes you muſt take your Center, or 12, at the beginning of the Line, as for Example.

The Extent from 12 (at the beginning of the Line) to 36, the ſame Extent will reach from 30 (being twice repeated) to 270 Foot, the ſolid Content.

Whenever the Compaſſes (after twice repeated) extend beyond the Line, you may take half, or quarter of the length of the Tree, then doubling or trebling it, gives the Content of the whole Tree.

There's a Piece of Timber 16 Inches broad, and 33 Inches deep, and 30 Foot in length, how many ſolid Feet are contain'd therein?

In this Caſe, you muſt reduce the Piece to a Square, by taking the middle, between 16 and 33 it gives 23 Inches for the ſide of the Square.

Then the Extent from 12 to 23 being twice repeated from 30, will reach to 110 Foot, the ſolid Content.

There's a Piece of Timber 4 Inches deep, and 16 Inches broad, and 20 Foot in length, what's the true Square and ſolid Content?

The middle betwixt 4 and 16 is 8, and from 20 downwards, being twice repeated, will fall upon 8.88 Foot, the ſolid Content.

To find the ſolid Content of a Globe or Ball.

Note, That 523.6 is the Center for Globes or Balls.

The Proportion.

As 10. is to the Diameter, ſo is 523.6 to the ſolid Content.

Suppoſe the Diameter of a Ball be 15 Foot, what's the ſolid Content?

Extend the Compaſſes from 10 to 15, the ſame Extent will reach from 523.6 (being thrice repeated) to 1755 Foot, the ſolid Content.

There's a Ball whoſe Diameter is 3 Foot, what's the ſolid Content?

The Extent from 10 to 3 downwards, the ſame Extent will reach from 523.6 (being thrice repeated downwards) to 14.12, the ſolid Content.

There's a Ball, the Diameter is 5.5, what's the ſolid Content?

The Extent from 10 to 5.5 downwards, the ſame Extent will reach from 523.6 (being thrice repeated downwards) to 87 Foot, the ſolid Content.

There's a Ball, whoſe Circumference is 12.6 Foot, what's the ſolid Content?

Firſt find the Diameter.

Say, As 7 is to 22, ſo is the Circumference to the Diameter.

The Extent from 72 to 22, the ſame Extent will reach from 12.6 to 4 the Diameter.

Then, As 10..4::523.6..33.28, the ſolid Content.

The Extraction of the Square and Cube Root.

A Square is a Geometrical Figure, conſiſting of four equal Sides, and as many right Angles, of which any one ſide is called the Root.

There's a Geometrical Figure, the ſides of which is 5 Foot; 5 multiply'd in it ſelf, (that is 5 by 5) the

Product is 25, and the ſquare Number of which 5 is the Root, and 25 the Square; as alſo 8 times 8 is *64*, which is a ſquare Number, and 8 is the Root of it.

There are three diſtinct Species or Kinds of ſquare Numbers, *(viz.)* Single, Compound, and Irrational.

Firſt, Single are all ſuch ſquare Numbers, as are made by Multiplication of any of the nine Digits in it ſelf, as 6 multiply'd by *6*, the Product is 3*6*, and 6 the Root.

Secondly, Compound are ſuch ſquare Numbers as are made by Multiplication of more Figures than one, as 10 multiply'd by 10, produceth a 100, or 20 multiply'd by 20, produceth 400, ſo that 400 is the ſquare Number, and 20 the Root of it.

Thirdly, Irrational are ſuch Numbers whoſe Roots cannot be found in whole Numbers, without Fractions, as 5. *6*. 7. 8. 12 or 18, and many others.

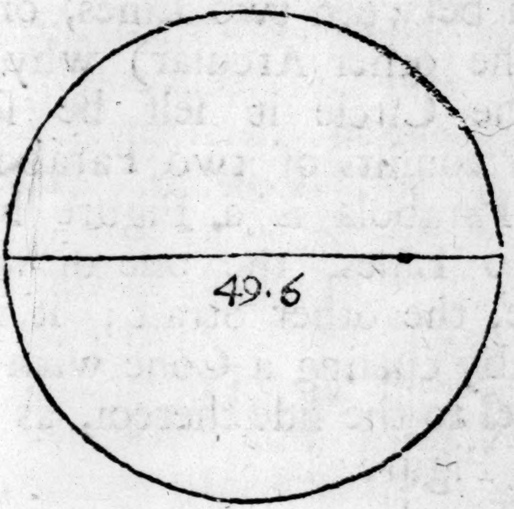
If a ſquare Number be given to find the Root thereof, that is, to find out ſuch a Number, which being multiply'd in it ſelf, ſhall be equal to the Number given, is called the Extraction of the ſquare Root, which is demonſtrated by the fourth Theorem of the ſecond Book of *Euclid's Elements.*

There's a Brick-wall, the Area of which is 555 Foot, what's the ſquare, heighth, and length of this Wall?

Extract the ſquare Root of the Area of any Superficial Figure, it gives the ſide of a Square equal to it.

The ſquare Root of 554 is 23.53.

The Diameter of a Circle 49.6, whoſe Area is 1932.209, what's the ſide of a Square equal thereto?



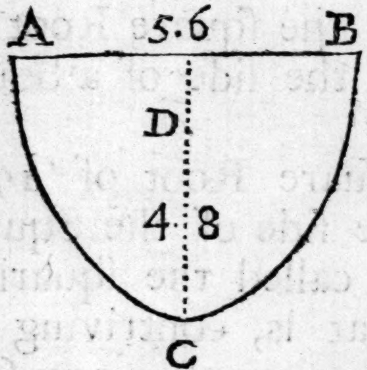
Extract the ſquare Root of the Area, gives the ſide of a Square equal thereto.

The ſquare Root of 1932.209 is 43.96, the ſide of the Square.

This is called the ſquaring of the Circle, that is, contriving or bringing a Square equal to any Circle, and exactly correſpondent, a thing that has puzled the ableſt Mathematitians. This, though the great *Archimedes* and others, have not exactly done, yet they have come near enough for Practice; and if they have ſquared a

Parabola (which is an Area intercepted between two Lines, one right and the other Arcular) why ſhould not the Circle it ſelf be ſquared, which conſiſts of two Parabola's?

A Parabola is a Figure bounded by two Lines, the one of which is Curve, the other Strait; it is generated by cutting a Cone with a plain Parallel to the ſide thereof, as you ſee in the Figure.



To meaſure a Parabola, the Rule is, multiply the breadth by the heighth CD, and that Product again by 2, divide the laſt Product by 3, the Quotient is the Area of the Parabola.

The breadth AB——5.6
The heighth DC——4.8

448
224

26.88
2

3) 53.76 (17.92
3

23
21

27
27

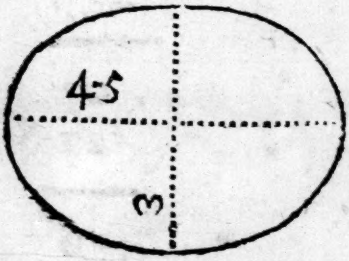
6
6

0

The Area of the Parabola is 17 Foot, and 92 Parts.

Demonſtration of the Reaſon in meaſuring a Parabola and an Elipſis, is founded on the Doctrine of Conick Sections; where it is proved, that a mean Proportion betwixt the longeſt and ſhorteſt Diameters of a Circle, whoſe Area is equal to that of the Elipſis, and that a Parabola is two thirds of its circumſcribing Parallelogram.

An Oval or Elipſis, is a Figure bounded by one Curve Line, generated from the Section of a Cone, by a plain paſſing through both ſides.



There's an Oval, the longeſt Diameter is 4.5 Foot, the ſhorteſt Diameter 3.

I would have another exactly as big again, what muſt the Diameters be?

The ſquare of 4.5 is 20.25, and the
multiply——2

40.50

ſquare Root of 40.50 is 6.36 Foot, for the longeſt Diameter.

And the ſquare of 3 is 9. The
2

18

ſquare Root of 18 is 4.24 for the ſhorteſt Diameter.

There's a Square that is 12 Foot, whoſe Area is 144 Foot; and it is requir'd to find the ſide of another Square 6 times as big.

The Rule.

Multiply the given Area by the Number of Times, you'd have it bigger, the ſquare Root of the Product is the ſide of the Square requir'd.

144
6

864

The ſquare Root of 864 is 29.41, which is the ſide of a Square 6 times as big.

But if you'd have it but half, or quarter, or any other part, ſo big, then you muſt extract the ſquare Root of half, or quarter, *&c.* of the given Area, it gives the ſide of a Square requir'd.

If the Area of a ſquare Field is 20.5 Acres, what the length of the ſide of the Field in *Gunter*'s Chains.

The Rule.

Multiply the Acres by 10, the ſquare Root is the ſide requir'd.

20.5
10

205.0

The ſquare Root of 205 is 14.31. for the length of the ſide in *Gunter*'s Chains.

A Field-Officer has 2542 Men, what Number of Men muſt be placed in Rank and File to make a ſquare Battle.

The ſquare Root of 2542 is 50, ſo many Men in Rank and File, and there will be 40 odd Men over and above.

A General had an Army containing 28289 Men, and the Ground on which they ſtood upon was 84867 Foot, he doubling his Army, would know what quantity of Ground will ſerve to place his Army in a ſquare Battle.

The ſquare Root of 84867 is 291, ſo many Foot ſquare does his preſent Army take.

And becauſe he doubles his Army, therefore double ——— 84867

2

———

169734

———

The ſquare Root of 169734 is 412, and ſo many ſquare Foot of Ground he will take to double his Army.

A Field-Officer has an Army containing 28289 Men, he divides his Men into three Bodies.

The firſt contains —— 10296
The ſecond —— —— 09493 } Men.
The third —— —— 08500

He would put them into three ſquare Battles, how many Men muſt ſtand in Rank and File. Out of each Number take the ſquare Root.

The ſqu. Root of-10296-is-101
The ſqu. Root of-09493-is--97 } Men.
The ſqu. Root of-08500-is--22

And 215 odd Men.

To reduce any Superficial Figure into a Circle, that is, to find the Diameter of a Circle equal to any given Superficies.

The Rule.

Multiply the given Area by 1.2732, extract the ſquare Root out of the Product, it will be the Diameter of the Circle.

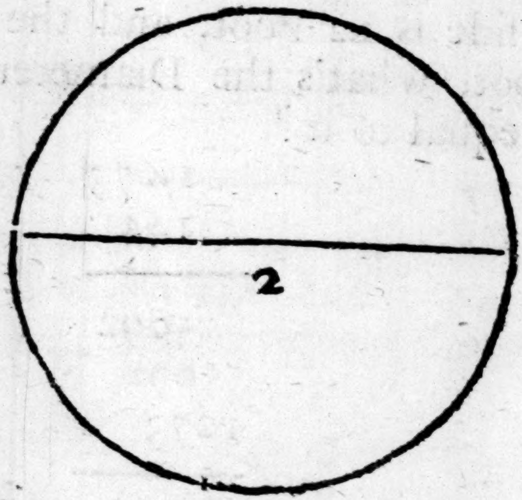
There's a Geometrical Square, whoſe ſide is 12 Foot, and the Area 144 Foot, what's the Diameter of a Circle equal to it?

```
     1.273
       144
   -------
      5092
     5092
    1273
   -------
   183.312
   -------
```

The ſquare Root of 183.312 is 13.5 the Diameter of the Circle.

There's a Circle whoſe Diameter is 2 Foot, and I would have another Circle that is three times as big, what muſt the Diameter of that Circle be? All Circles are in proportion one to the other, as the ſquare of their Diameters.

Therefore ſquare the Diameter and multiply the Product by 3, (becauſe it is three times as big) out of which take the ſquare Root.



2
2

Square 4
3

12

The ſquare Root of 12 is 3.46 Foot for the Diameter, which is to be three times as big.

There's the Area of a Triangle 864 Foot, the Perpendicular 36 Foot, what is the Baſe? Divide the Area by half the Perpendicular, the Quotient gives the Baſe.

```
18) 864 (48 Baſe
    72
    ———
    144
    144
    ———
    (0)
```

There's a Triangle, whoſe Area is 864, and the Baſe 84 Foot; what's the Perpendicular? Divide the Area by the Baſe, the Quotient gives half the Perpendicular.

```
48) 864 (18
    48
    ---
    384
    384
    ---
    (0)
```

The Proportion of Bullets and Metals.

It is a common Opinion, that a Bullet of caſt Iron, of 4 inches Diameter, weighs 9 Pound of Averdupoiſe-weight.

Then if an Iron Bullet of 4 inches Diameter weighs 9 Pound, what will an Iron Bullet of 8 inches Diameter weigh?

Note, That all Balls and Sphers are in proportion, one to another, as the Cubes of their Diameters.

Therefore the Cube of 4 is 64, and the Cube of 8 is 512.

As 64 . . 9 : : 512 . . 72 Pound-weight.

If a Ball, whoſe Diameter is 8 inches, weighs 72 Pound, what's the weight of that Ball whoſe Diameter is 16 inches?

The Cube of 16 is 4096, and the Cube of 8 is 512.

As 512 . . 72 : : 4096 . . 576 Pound.

If a Ball weighs 576, what's the Diameter?

A Ball of 4 inches Diameter weighs 9 Pound; therefore ſay, As the weight of 9 Pound is to the Cube of its Diameter, ſo is the weight of 576 to the Cube of its Diameter.

The Cube of 4 is 64, multiply 576 by 64, it makes 36864, divide that Number by 9, gives 4096; out of which take the Cube Root, you'll find it to be 16 inches for the Diamemeter of the Ball.

There's a Cube whoſe ſide is 6 Foot, and the Solidity is 216 Foot, what ſhall be the ſide of that Cube, whoſe Solidity ſhall be double?

Double 216, it makes 432, the Cube Root is 7.55 Foot.

Having the ſolid Content of a Globe or Ball, to find the ſide of a Cube, whoſe Solidity ſhall be equal to that of a Ball.

There's a Ball, whoſe Solidity is 13.5 Foot, what's the ſide of a Cube equal to it?

The Cube Root of 13.5 is 2.38 Foot, the ſide of a Cube equal to that of a Ball.

The ſides of two Cubes, or Balls, being given, to find one Cube, or Ball, that ſhall be equal in Solidity to both the given ones.

Let the ſide of one of the Diameters be 13.5 Foot, and the ſide of the other 102.

Find the Cube of both given ſides and add them together, whoſe Cube Root is the ſide equal to both.

The Cube of 13.5 is---2460.37
The Cube of 10.2 is---1061.20

Cubes added---3521.57

The Cube Root of 3521.57 is 15.21 Foot.

How to make a Veſſel of any Form to hold any Quantity of Liquor, Corn, &c.

There's a Veſſel, the top Diameter 40 inches, the bottom Diameter 20, deep 50 inches; I would have another Veſſel 3 times as large, what will be the Dimenſions of it?

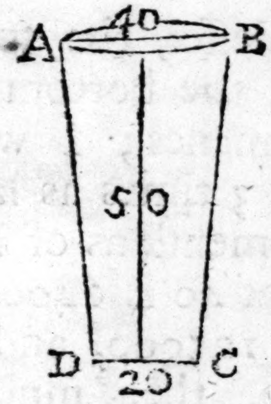
The Cube of 40 is 64000, and the Cube of 50 is 125000, and the Cube of 20 is 8000, then multiply each Cube by 3 ſeverally, and out of the ſeveral Products, extract the Cube Root, will be the Dimenſion requir'd.

8000	125000	64000
3	3	3
24000	375000	192000

The Cube Root of 192000 is 57.69 for the top Diameter A B.

The Cube Root of 24000 is 28.85 for the bottom Diameter D C.

The Cube Root of 375000 is 72.12 for the depth.



This Rule holds in Casks, Cylinder, Globes, *&c.*

To find the ſide of a Cube to hold any Quantity of Liquid, or Dry Meaſure.

Rule.

Find the Cube Inches in the Veſſel propos'd, out of which take the Cube Root, is the ſide of a Cube equal. What's the ſide of a Cube, that will hold *6* Barrels?

Find how many Cubick Inches is one Barrel.

In one Barrel, - - - - 36 Gallons.
In one Gallon - - - - 282 Inches.

72
288
72

Inches in a Barrel, - 10152
6

Inches in 6 Barrels, 60912

The Cube Root of 60912 is 39.34 for the ſide of a Cube that will hold 6 Barrels.

I would have a Ciſtern in length 74 Inches, the breadth 26 Inches, how deep muſt it be to hold 6 Barrels of Water.

In 6 Barrels (as before found) there is 60912 Cubick Inches. Multiply 74 by 26, it makes 1924.

Divide 60912 by 1924, gives 31.65 Inches for the depth.

60912

60912 | 60912 | 31.65

Of what Diameter muſt a Cylindrick Veſſel be to hold 4 Barrels of Water, the heighth being 3 Foot?

Find the Cubick Inches in 4 Barrels, divide the Inches by the heighth of the Cylinder, the Quotient is the Area of the Baſe.

And becauſe it is a Circle, find the Diameter, by multiplying it by 1.27234, the ſquare Root of the Product will be the Diameter of the Cylinder.

In one Barrel of 36 Gallons there is - - - - - - - - - - - - 10152
Barrels - - - 4
Area.
The heighth - 36 | 40608 | 1128

```
The Area - - - - 1128
                 1.272
                 -----
                  2258
                 7896
                2256
               1128
              --------
              1434.818
              --------
```

The Square Root of 1434.818 is 37.83, the Diameter of the Cylinder.

By this Rule you may make any round Fountains to hold any Quantity of Water.

Inſtructions for Meaſuring, in diging of Cellars, Vaults, Drains, &c.

Diging is generally agreed by the Yard ſolid, (*viz.*) 27 Feet, and ſo much ought to be a Cart-Load.

And for finding the Quantity of this kind of Work, three Dimenſions muſt be taken, (that is) the length, breadth, and depth.

There's a Cellar to be made in length 22 Feet, in breadth 15 Feet, in depth 7 Feet, how many Loads or Yards is in this Cellar?

22
15
———
110
22
———
330
7
——— Yards.
27) 2310 (85.55

There is 85 Yards and a half in the Cellar, in every Yard ſolid of Earth, there is 27 Feet or Loads.

But the moſt readieſt way is by the Yards.

Suppoſe you agree with a Workman, to dig and make a Pool, or Pond, in length 50 Yards, in breath 40, deep 2 Yards, how many Yards or Loads is in it.

$$\begin{array}{r} 50 \\ 40 \\ \hline 2000 \\ 2 \\ \hline 4000 \\ \hline \end{array}$$

There is 4000 Loads, or Yards, in this Pool.

By this Rule you may ſet by Great any Cellars, Fiſh-Pools, Pool-Dams, Drains, Vaults, *&c.*

Some Pools may be worth diging, and carrying out, a Penny, two Pence, three Pence, or ſix Pence a Yard, according to the largeneſs of the Pool.

A Statute-Acre is meaſured by the Pole or Perch, which is 16 Foot and a half, ſo that in every Acre there is 4 Perches, (or 22 Yards) and in breadth 20 Perches, (or 220 Yards) in length makes a Statute-Acre.

$$\left.\begin{array}{l} a+e=y \\ \underline{a-e=d} \end{array}\right\} \text{Quære } a, e$$

$$2a = y+d$$

$$a = \frac{y-d}{2}$$

$$e = \frac{y-d}{2}$$

This TABLE *reduceth Acres into ſquare Yards; in every Acre there is* 4840 *ſquare Yards.*

Square Yards.	*A*	*Square Yards.*	*A*	*Square Yards.*	*A*
4840	1	87120	18	169400	35
9680	2	91960	19	174240	35
14520	3	96800	20	179080	37
19360	4	101240	21	183920	38
24300	5	106480	22	188760	39
29040	6	111320	23	193600	40
33880	7	116160	24	198440	41
38720	8	121000	25	203280	42
43560	9	125840	26	208120	43
4840	10	130680	27	212960	44
53240	11	135520	28	217800	45
58080	12	140360	29	222640	46
62920	13	14520	30	227480	47
67600	14	150040	31	232320	48
72660	15	154880	32	237160	49
7744	16	159720	33	242000	50
82280	17	164560	34	246840	51

The

The uſe of the Table of Acres, whereby you may meaſure any Field, that is either Geometrical, or an Oblong Square, or any Land that is not irregular, by the Yard.

Example.

You muſt meaſure the length and breadth of the Field, then multiply the length by the breadth, and that Product look in the Table in the Columns of Yards, and againſt it you have the Acres.

There's a Field 260 Yards ſquare, how many Acres?

```
     260
     260
   -------
     156
     52
   -------
   67600 Yards.
   -------
```

Againſt 67600 Yards, you'll find in the Table 14 Acres, the Content of the Field.

Sometimes it will happen you cannot find the exact Number of Yards in the Table, in this caſe take the neareſt Number to it, and ſubſtract one from the other, will give the odd Yards.

There's a Field in length 125, in breadth 120; How many Acres and Yards?

```
  125
  120
 ─────
  250
 125
 ─────
 15000 Yards.
 ─────
```

The neareſt Number in the Table is 14520, againſt it is 3 Acres.

Therefore ſubſtract 14520 out of 15000, there will remain 480 odd Yards, which is almoſt a Quarter of an Acre.

Note,

In half a quarter there's -	605	Yards.
In a quarter - - - - - -	1210	
In half an Acre - - - -	2420	
In three quarters - - -	3630	

FINIS.

WILLIAM SPEER

BOOKS Printed for, and Sold by Thomas Atkinſon, *at the* White Swan *in St*. Paul'*s Church-Yard. Where is to be had all ſorts of* **Bibles** *and Common-Prayers, and other* new *Books.*

A Diſcourſe concerning the Inventions of Men the Worſhip of God. By the Right Reverend Fatheir in God, *William* Lord Archbiſhop of *Dublin*.

A Preparative to Death. Written originally in Latin by *Eraſmus*, now rendred into Engliſh. To which is added, Meditations and Prayers for ſick and dying Perſons. By *Robert Warren*, M. A. Rector of *Charlton* in *Kent*.

BRITISH MUSEUM 17 AP 90

A

A Vindication and Explanation of the Liturgy of the Church of *England.*

A brief Explanation of the obſcure Phraſes in the Book of Pſalms. Both by *John Clutterbuck*, Gent.

An admonition to the Diſſenters; being a Vindication of a Diſcourſe concerning the Inventions of Men in the Worſhip of God. By the Right Reverend Father in God, *William* Lord Archbiſhop of *Dublin*.

An Enquiry into the Nature, Neceſſity, and Evidence of the Chriſtian Faith, in ſeveral Eſſays; 1. Of Faith in General, and of the Belief of a Deity. 2. Of Faith, with reſpect to Divine Providence.

Fifteen Sermons on ſeveral Occaſions. Both by *J. Cockburn*, D. D.

Family Devotions: Containing Morning and Evening Prayers for every day in the Week. To which is added, A Diſcourſe concerning Prayer in General, and ſhewing the neceſſity of Family Prayer. By *Eraſmus Warren*, Rector of *Worlington* in *Suffolk*.

Ohpthalmiatria; Qua Accurata & Integra Oculorum male Affectorum inſtituitur Medela; cui Annectitur, Fermento, Volat. Nutritio Ventriculi, *&c.* Edit. 2da, cum Praxeos Stomachicae Specimine Adjuncto. Authore *Gul. Coward*, Col. Med. Lond. M. D.

Secret and Family Prayers, with brief Helps for the more devout receiving of the Lord's Supper. To which is added, A Diſcourſe on the Value of the Soul. By *J. Armſtrong*, B. D. The 2d Edition. To which is prefix'd, An Account of the Author's Life.

The Anatomy of Humane Body abridg'd; or, A ſhort and full View of all the Parts of the Body together, with their ſeveral Uſes drawn from their Compoſitions and Structures. By *James Keil*, M. D.

The

Satan diſrob'd from his Diſguiſe of Light, or the Quakers laſt Shift to cover their monſtrous Hereſies, laid fully open by the Author of *The Snake in the Graſs.*

The Daily Self-Examinant, or an earneſt perſwaſive to the Duty of daily Self-Examination, with devout Prayers, Meditations, and Directions for an holy Life and happy Death. By *Robert Warren*, M. A. Rector of *Charlton* in *Kent.*

The Engliſh *Theophraſtus*, or the Manners of the Age, being the modern Characters of the Court, the Town, and the City.

De Origine mali Authore *Gul. King*, S. F. D. Epiſcopo Derenſis.

Ramellies. A Poem. Humbly inſcribed to his Grace the Duke of *Marlborough.* By *W. Wagſtaff*, Gent. of *Lincoln* College in *Oxon.* A Conſolatory Diſcourſe, written above 14 hundred Years ago, in a Time of great Mortality and Diſtreſs. By that bleſſed Saint and Martyr *Cæcilius Cyprianus.* Engliſhed for the ſake of the Afflicted.

The juſt Scrutiny: Or, A ſerious Enquiry into the Modern Notions of the Soul; Firſt, Conſider'd as Breath of Life, or a Power (not Immaterial Subſtance) united to Body, according to Holy Scripture. Secondly, As a Principal naturally Mortal, but immortaliz'd by its Union with the Baptiſmal Spirit, according to Platoniſm lately Chriſtianiz'd; with a comparative Diſquiſition between the Scriptural and Philoſophical State of the Dead, and ſome Remarks on the Conſequences of ſuch Opinions. By *William Coward*, M. D.

Biographia Eccleſiaſtica; Or, The Lives of the moſt Eminent Fathers of the Chriſtian Church, who flouriſh'd in the firſt four Centeries, and part of the fifth; adorn'd with all their Effigies. To which is added, A Diſcourſe concerning the State of

Religion